



منظمة الطيران المدني الدولي

فريق الخبراء المعني بالبضائع الخطرة

الاجتماع الثالث والعشرون

مونتريال، ١١ إلى ٢١/١٠/٢٠١١

ملف التقرير

لم تنظر لجنة الملاحة الجوية في المادة الواردة في هذا التقرير. وينبغي اعتبار الآراء المعرب عنها فيه بوصفها مشورة مقدمة من فريق من الخبراء تابع للجنة الملاحة الجوية، وأنها لا تمثل آراء المنظمة. وبعد أن تنظر لجنة الملاحة الجوية في هذا التقرير، سوف تصدر إضافة له تتضمن الإجراءات التي اتخذتها لجنة الملاحة الجوية في هذا الشأن.

الاجتماع الثالث والعشرون
فريق الخبراء المعني بالبضائع الخطرة

مونتريال، ١١ إلى ٢١/١٠/٢٠١١

كتاب إحالة

إلى: رئيس لجنة الملاحة الجوية

من: رئيس فريق الخبراء المعني بالبضائع الخطرة (٢٠١١)

أتشرف بتقديم تقرير الاجتماع الثالث والعشرين لفريق الخبراء المعني
بالبضائع الخطرة الذي انعقد في مونتريال من ١١ إلى ٢١/١٠/٢٠١١.



جيف ليتش
رئيس الفريق

مونتريال، ٢١/١٠/٢٠١١

جدول المحتويات

الصفحة

الخلفية التاريخية للاجتماع

ii-1	..... ١- مدة الاجتماع
ii-1	..... ٢- الحضور
ii-4	..... ٣- المسؤولون والأمانة
ii-4	..... ٤- جدول أعمال الاجتماع
ii-5	..... ٥- ترتيبات العمل
ii-5	..... ٦- الملاحظات الافتتاحية من جانب رئيس لجنة الملاحة الجوية

تقرير الاجتماع

1-1	البند ١ من جدول الأعمال: وضع مقترحات، إذا دعت الضرورة إلى ذلك، بإجراء تعديلات على الملحق الثامن عشر — النقل الآمن للبضائع الخطرة بطريق الجو
2-1	البند ٢ من جدول الأعمال: إعداد توصيات لإجراء تعديلات على التعليمات الفنية للنقل الآمن للبضائع الخطرة بطريق الجو (الوثيقة (Doc 9284)) لإدراجها في طبعة ٢٠١٣-٢٠١٤
3-1	البند ٣ من جدول الأعمال: إعداد توصيات لإجراء تعديلات على الإضافة الخاصة بالتوجيهات الفنية للنقل الآمن للبضائع الخطرة بطريق الجو (الوثيقة (Doc 9284 SU)) لإدراجها في طبعة ٢٠١٣-٢٠١٤
4-1	البند ٤ من جدول الأعمال: وضع توصيات لإجراء تعديلات على إرشادات الطوارئ لمعالجة الأحداث الناتجة عن البضائع الخطرة على متن الطائرات (Doc 9481) لإدراجها في طبعة ٢٠١٣-٢٠١٤
5-1	البند ٥ من جدول الأعمال: حل مسألة بنود العمل غير المتكررة التي حددتها لجنة الملاحة الجوية أو فريق الخبراء حيثما أمكن ذلك وهي:
	١-٥: استعراض الأحكام الخاصة بنقل بطاريات الليثيوم
	٢-٥: إعداد أحكام لنقل البضائع الخطرة على متن طائرات هليكوبتر
	٣-٥: استعراض الأحكام الخاصة بالمعلومات الواجب تقديمها إلى الطيار القائد
	٤-٥: إعداد معايير الأداء لموظفي الدولة
6-1	البند ٦ من جدول الأعمال: مسائل أخرى

الصفحة

قائمة التوصيات*

1-3	.....	تعديل الأحكام المتعلقة بمجال التطبيق العام الواردة في الملحق الثامن عشر	١/١	قواعد وتوصيات دولية
1-3	.....	تعديل أحكام الملحق الثامن عشر بشأن نظم التفتيش.....	٢/١	قواعد وتوصيات دولية
1-4	.....	تعديل التعاريف الواردة في الملحق الثامن عشر	٣/١	قواعد وتوصيات دولية
2-31	..	تعديل على التعليمات الفنية للنقل الآمن للبضائع الخطرة عن طريق الجو (Doc 9284) ..	١/٢	
		تعديل على الإضافة على التعليمات الفنية للنقل الآمن للبضائع الخطرة	١/٣	
3-4	.....	(Doc 9284, Supp)		
		تعديل إرشادات الطوارئ لمعالجة الأحداث الناتجة عن البضائع الخطرة على متن الطائرة	١/٤	
4-1	.....	(Doc 9481)		
		تعديل أحكام بطاريات الليثيوم في التعليمات الفنية للنقل الآمن للبضائع الخطرة عن	١/٥	
5-12	.....	طريق الجو (Doc 9284)		
		إضافة أحكام لنقل البضائع الخطرة على متن طائرات هليكوبتر في التعليمات الفنية للنقل	٢/٥	
5-13	.....	الآمن للبضائع الخطرة عن طريق الجو (Doc 9284)		
		إضافة أحكام خاصة بنقل البضائع الخطرة على متن طائرات هليكوبتر في الإضافة إلى	٣/٥	
5-13	.....	التعليمات الفنية للنقل الآمن للبضائع الخطرة عن طريق الجو (Doc 9284, Supp)		
		تعديل أحكام إخطار الطيار في التعليمات الفنية للنقل الآمن للبضائع الخطرة عن طريق	٤/٥	
5-15	.....	الجو (Doc 9284)		
		إضافة أحكام متعلقة بالتدريب القائم على القدرات في التعليمات الفنية للنقل الآمن	٥/٥	
5-16	.....	للبنائات الخطرة عن طريق الجو (Doc 9284)		

* التوصيات التي ترد إلى جانبها عبارة "قواعد وتوصيات دولية" تخص اقتراحات بتعديل القواعد والتوصيات الدولية وإجراءات خدمات الملاحة الجوية والمواد الإرشادية الواردة في ملحق من الملاحق.

الاجتماع الثالث والعشرون لفريق الخبراء المعني بالبضائع الخطرة

مونتريال، ١١ إلى ٢١ أكتوبر ٢٠١١

الخلفية التاريخية للاجتماع

١- مدة الاجتماع

١-١ افتتح السيد مرفين فرناندو، رئيس لجنة الملاحه الجوية، الاجتماع الثالث والعشرين لفريق الخبراء المعني بالبضائع الخطرة في مونتريال في الساعة العاشرة صباحا يوم ١١/١٠/٢٠١١. وانتهى الاجتماع في يوم ٢١/١٠/٢٠١١.

٢- الحضور

١-٢ حضر الاجتماع أعضاء رشحتهم ١٧ دولة متعاقدة ومنظمتان دوليتان، فضلا عن عدد من المستشارين والمراقبين على النحو الوارد أدناه.

جهة الترشيح	المستشارون	الأعضاء
Australia	L. Willoughby T. Amos	A. Tusek
Belgium		K. Vermeersch
Brazil		B. A. Carrara
Canada	D. Evans T. Howard J. Prescott G. Sansoucy E. Servant J. St-Onge D. Sylvestre	M. Paquette
China	J. Abouchaar H. Ding L. Gang Z. Hua	X. Qing
(Hong Kong)	P. Tse K. Wan Lai-yi Q. Zhenhua	

France	M. Plassart P. Tatin	J. Le Tonqueze
Germany	G. Closhen H.J. Niegel B.U. Wienecke	H. Brockhaus
Italy	C. Carboni	M. Gelsomino
Japan	A. Awano M. Horie K. Moriwaki H. Shima I. Uehara	K. Koume
Netherlands	H. Van der Maat	T. Muller
New Zealand		M. Evans
Republic of Korea	J.S. Park	S. W. Park
Russian Federation	D. V. Kurdchenko	D. Mirko
Spain		L.C. Bárcena
United Arab Emirates	A. Alhmoudi P. Balasubramanian P. King	H. Al Muhairi
United Kingdom	H. Gilson J. Hart R. McLachlan D. Muir S. Pinnock	G. Leach
United States	R. Benedict C. Betts M. Givens S. Kelley K. Miller D. Pfund C. Sarkos H. Webster	J. McLaughlin

IATA	M. Abdul Hanif I. Molina P. Oppenheimer	D. Brennan
IFALPA	S. Schwartz	M. Rogers
		المستشارون
CEFIC	W. Gramer	E. Sigrist
DGAC	A. Altemos B. Barrett R. Jessop N. McCulloch A. Stukas F. Wybenga	
		المراقبون
Bahamas		F. H. Carroll
Switzerland		N. Hagmann B. Henzen R. Joss
GEA		A. McCulloch
NATO		S. Charlier F. Bogнар
NEMA		C. Updyke
PRBA		G.A. Kerchner S. Yabe
UPU		D. Bowers A. Miyaji
WNTI		E. Supko

٣- المسؤولين والأمانة

- ١-٣ انتخب السيد جيف ليش (المملكة المتحدة) رئيساً للاجتماع كما انتخبت السيدة ك. فرميرش (بلجيكا) نائبة للرئيس.
- ٢-٣ وتولت مهام أمانة الاجتماع الدكتورة كاثرين روني، المسؤولة الفنية في قسم العمليات الجوية، وساعدتها في ذلك السيدة ل. ماكجيجان، المسؤولة عن معلومات البضائع الخطرة في نفس القسم.
- ٣-٣ وقُدمت خدمات الترجمة الفورية باللغات العربية والصينية والانجليزية والفرنسية والروسية والاسبانية كما قدمت خدمات الترجمة التحريرية باللغات الصينية والانجليزية والفرنسية والروسية والاسبانية.

٤- جدول أعمال الاجتماع

- ١-٤ وافقت لجنة الملاحة الجوية في ٢٠١١/٣/١ على جدول الاجتماع الوارد أدناه:
- البند ١ من جدول الأعمال: وضع مقترحات، إذا دعت الضرورة إلى ذلك، بإجراء تعديلات على الملحق الثامن عشر — النقل الآمن للبضائع الخطرة بطريق الجو
- البند ٢ من جدول الأعمال: إعداد توصيات لإجراء تعديلات على التعليمات الفنية للنقل الآمن للبضائع الخطرة بطريق الجو (الوثيقة (Doc 9284)) لإدراجها في طبعة ٢٠١٣-٢٠١٤
- البند ٣ من جدول الأعمال: إعداد توصيات لإجراء تعديلات على الإضافة الخاصة بالتوجيهات الفنية للنقل الآمن للبضائع الخطرة بطريق الجو (الوثيقة (Doc 9284 SU)) لإدراجها في طبعة ٢٠١٣-٢٠١٤
- البند ٤ من جدول الأعمال: وضع توصيات لإجراء تعديلات على إرشادات الطوارئ لمعالجة الأحداث الناتجة عن البضائع الخطرة على متن الطائرات (Doc 9481) لإدراجها في طبعة ٢٠١٣-٢٠١٤
- البند ٥ من جدول الأعمال: حل مسألة بنود العمل غير المتكررة التي حددتها لجنة الملاحة الجوية أو فريق الخبراء حيثما أمكن ذلك وهي:
- ١-٥: استعراض الأحكام الخاصة بنقل بطاريات الليثيوم
- ٢-٥: إعداد أحكام لنقل البضائع الخطرة على متن طائرات هليكوبتر
- ٣-٥: استعراض الأحكام الخاصة بالمعلومات الواجب تقديمها الى الطيار القائد
- ٤-٥: إعداد معايير الأداء لموظفي الدولة
- البند ٦ من جدول الأعمال: مسائل أخرى.

٥- ترتيبات العمل

١-٥ عقد فريق الخبراء اجتماعه في شكل هيئة واحدة، وشكل أفرقة خاصة للصياغة حسب الحاجة. وأجريت المناقشات الاجتماع الرئيسي باللغات العربية والصينية والانجليزية والفرنسية والروسية والاسبانية. وقدمت بعض ورقات العمل باللغة الانجليزية وحدها. وصدر التقرير باللغات الصينية والانجليزية والفرنسية والروسية والاسبانية.

٦- الملاحظات الافتتاحية من جانب رئيس لجنة الملاحه الجوية

سيداتي سادتي، أسعدتم صباحاً

نفتتح اليوم الاجتماع الثالث والعشرين لفريق الخبراء المعني بالبضائع الخطرة.

ويسرني، باسم لجنة الملاحه الجوية، أن أرحب بكم مجدداً في مونتريال وفي مقر الايكاو.

لقد نظرت اللجنة في تقريركم بعد الاجتماع الثاني والعشرين لفريق الخبراء الذي عُقد في أكتوبر ٢٠٠٩، وأوصت المجلس بقبول جميع توصياتكم. وفي ٤ مارس ٢٠١١ اعتمد المجلس التعديل ١٠ على الملحق ١٨، وقد دخل هذا التعديل حيز النفاذ في ١٨ يولييه ٢٠١١ وسيدخل حيز التطبيق في ١٧ نوفمبر ٢٠١١. كما وافق المجلس على التعديلات المقترحة على طبعة عام ٢٠١١-٢٠١٢ لوثيقة التعليمات الفنية، ودخلت هذه التعديلات حيز التطبيق منذ ١ يناير ٢٠١١، فضلاً عن ثلاث إضافات تتعلق بالمتطلبات الإضافية لشحن مولدات الأكسجين، ونقل الأشخاص الذين تعرضوا عرضاً أو قصداً لتناول مواد مشعة أو التلوث بها، والتعديلات المترتبة على إعادة صياغة تعليمات التغليف.

وقد حدثت عدة تغييرات في الفريق منذ الاجتماع الثاني عشر، حيث غادره السيد باتشيكو، والسيد ج. ت. كوريا جونبور، والسيد روي، والسيد وو، والسيد هوتا، والسيد ماتسوي، والسيد ريتشارد، والسيدة رادجيرز، وتعرب اللجنة عن امتنانها لما قدمه هؤلاء الأعضاء من مساهمات. وقد حل مكانهم السيد كارارا مرشح البرازيل، والسيدة تسو مرشحة الصين، والسيد كومي مرشح اليابان، والسيد مولر مرشح هولندا، والسيدة مكلاولين مرشحة الولايات المتحدة. ويضم الفريق الآن تسعة عشر عضواً رشحتهم ١٧ دولة ومنظمتان دوليتان. وتعرب اللجنة عن تقديرها البالغ لعملكم في الفريق، وأود أن أوجه شكراً خاصاً للسيد مولر والسيد توسيك، الأول لمساهمته في وضع معايير التدريب القائم على الكفاءة، والثاني لافتتاحه دورة الايكاو التدريبية في مجال البضائع الخطرة لدول منطقة المحيط الهادئ.

ستجتمعون خلال الأسابيع المقبلة كفريق خبراء. وأودّ، كالعادة، أن أذكّر كل عضو منكم بأنه حاضر هنا بصفته الشخصية كخبير يمثل آراءه المهنية التي قد لا تعبر بالضرورة عن آراء إدارته أو منظمته. فمع أنكم مرشحون من حكوماتكم أو منظماتكم، فإن لجنة الملاحه الجوية قد وافقت عليكم كخبراء في مجال البضائع الخطرة، ولذا يُنتظر منكم أن تعبروا عن آرائكم المهنية الخاصة. أضف إلى ذلك أن ما يحدد نجاح أي اجتماع لأفرقة خبراء الايكاو هو قدرة المشاركين فيها على تسوية المسائل الفنية في جو من التعاون، ومع أن توافق الآراء ليس شرطاً مطلقاً، فإنه ضماناً للنجاح دون أدنى شك.

إن مهمتكم الأولى هي وضع مقترحات لأي تعديلات يلزم إدخالها على الملحق ١٨. والعديد من إدارات الطيران الوطنية يشعر بشدة أن ملاحق الاتفاقية ينبغي أن تكون وثائق ذات طابع مستقر. وبالتالي، فقد أصدر مجلس الايكاو توجيهات بلزوم تحديد دورة مدتها ثلاث سنوات على الأقل بين تعديلات الملحق، باستثناء المسائل الملحة التي تتصل باعتبارات مثل السلامة أو الكفاءة. وستكون اللجنة مهتمة بمناقشاتكم حول مسألة إدماج "دولة العبور الجوي" في عملية الإعفاءات، فضلاً عن مسألة الرقابة على سلسلة نقل البضائع الخطرة.

أما المهمة الثانية لهذا الاجتماع فهي التوصية بالتنقيحات الضرورية للتعليمات الفنية لإدماجها في الطبعة ٢٠١٣-٢٠١٤ لهذه التعليمات. وهنا أرجو منكم التركيز على كلمة "الضرورية"، وأطلب منكم جميعاً أن تضعوا في اعتباركم أن كل تغيير يُدخل يفرض عبئاً على مستخدمي هذه الوثيقة. ومع ذلك، أدرك أن الغالبية العظمى من التعديلات تنشأ من مستلزمات تنسيق التعليمات الفنية مع توصيات الأمم المتحدة التي تتسم بأهمية فائقة، إذ تصب في مصلحة المواءمة بين أنظمة النقل المتعدد الوسائط. وسيُنظر بعين الاهتمام إلى محصلة نقاشاتكم حول سبل تعزيز نهج الاتساق بين التعليمات الفنية وأنظمة النقل الأخرى، لما قد يعود به ذلك من نفع على جميع الجهات المعنية بنقل البضائع الخطرة.

ويتعلق البند الأخير من جدول الأعمال بالمهام المتعددة غير المتكررة التي حددتها اللجنة وفريق الخبراء. وإني أتطلع للاستماع إلى نتائج مناقشاتكم بهذا الشأن، ولا سيما بشأن بطاريات الليثيوم، وهو موضوع يهم اللجنة كثيراً، ونقل البضائع الخطرة بطائرات هليكوبتر، ورأيكم حول الأحكام المتعلقة بالمعلومات المقدمة إلى قائد الطائرة.

لقد أرست لجنة الملاحة الجوية والمجلس، بواسطة الملحق ١٨ والتعليمات الفنية، الهيكل العريض لضمان النقل الآمن للبضائع الخطرة. أما مهمة جمع وتنظيم التفاصيل المتعددة للتعليمات الفنية فتقع على عاتقكم، وهي تقتضي منكم ضمان أن تكون هذه التعليمات دقيقة ومكتملة ومفهومة وعملية. واللجنة على ثقة بأنكم ستحافظون على المستوى الرفيع الذي أبديتموه في اجتماعاتكم السابقة. وإذا اعتزتم مشورة أو مساعدة في عملكم، فإني على ثقة بأن رئيسكم لن تتردد في الاستعانة بالأمانة أو بي أو بأي عضو آخر من أعضاء اللجنة. وعلى أي حال، فإننا سنلتقي مجدداً في نهاية اجتماعكم لمناقشة ما تحقق من إنجازات في جلسة إحاطة غير رسمية. وإني أتطلع مع جميع أعضاء اللجنة إلى الاستماع إلى ما ستقولونه رئيسكم في هذه الجلسة.

واسمحوا لي أن أتقدم بملاحظة أخيرة: أنني ممتن لكن على التعاون القائم بينكم وبين فريق خبراء العمليات في إعداد الشروط التشغيلية التي ينبغي إدراجها في الملحق السادس. وهذا الأمر جدير بالثناء بصفة خاصة إذ إن هذا هو نوع التعاون الذي تأمل أن تراه لجنة الملاحة الجوية مع فرق الخبراء الأخرى أيضاً، وأشركم بالتالي على ذلك جزيل الشكر.

ولا يتبقى لي الآن سوى أن أعلن افتتاح الاجتماع الثالث والعشرين لفريق الخبراء المعني بالبضائع الخطرة، وأن أتمنى لكم كل نجاح في عملكم وإقامة طيبة في مونتريال.

البند ١: وضع مقترحات، إذا دعت الضرورة إلى ذلك، بإجراء تعديلات على الملحق الثامن عشر — النقل الآمن للبضائع الخطرة بطريق الجو

١-١ اعتبارات دولة التحليق العابر في عملية الإغفاء (ورقة العمل DGP/23-WP/25) وورقة العمل (DGP/23-WP/51)

١-١-١ تناولت المناقشات مسألة إلغاء دولة التحليق العابر من عملية الإغفاء. وتجدر الإشارة إلى أن الصعوبات التي يواجهها الشاحنون أو المشغلون عند محاولتهم الحصول على إغفاء من دول التحليق العابر أثرت لأول مرة في الاجتماع الحادي عشر لفريق الخبراء المعني بالبضائع الخطرة المنعقد في عام ١٩٨٧. كما نوقشت في اجتماع الفريق العامل الجامع المنعقد في أوكلند (الاجتماع التاسع للفريق العامل التابع لفريق الخبراء، في الفترة من ٤ إلى ٨ مايو ٢٠٠٩، انظر الفقرة ٣-١-٥-٣ من ورقة العمل (DGP/22-WP/3) عندما اقترح أنه يكاد يستحيل التنبؤ بدول التحليق العابر نظرا لزيادة استخدام الطائرات المستقلة. وفي الأونة الأخيرة نوقشت هذه المسألة في الاجتماع الثاني والعشرين للفريق العامل التابع لفريق الخبراء (انظر الفقرة ٤-١ من ورقة العمل (DGP/22-WP/100)، والاجتماع العاشر للفريق العامل التابع لفريق الخبراء (انظر الفقرة ٣-١-٤ من ورقة العمل (DGP/23-WP/10) والاجتماع الحادي عشر للفريق العامل التابع لفريق الخبراء (انظر الفقرة ٣-١-١ من ورقة العمل (DGP/22-WP/3).

٢-١-١ وعُرض على الاجتماع نهج يقر بمصالح الدول والمشغلين. ويضع هذا النهج المسؤولية الرئيسية لعملية الإغفاء على عاتق دولة المنشأ ودولة العبور ودولة المقصد. ويتعامل المشغل في المقام الأول مع هذه الدول. وتستصدر الإغفاءات في بداية الأمر إلى المشغل من طرف دولة المنشأ، وأي دولة تهبط فيها الطائرة خلال مرحلة العبور، ودولة المقصد. وهكذا من شأن المشغل أن يطلب الحصول على إغفاء سريع من الدول التي يُحتمل أن تعبر الطائرة أراضيها. ويُسمح لدول التحليق العابر بفترة زمنية محدودة لدراسة الطلب. وفي غياب رد أولي أو إقرار باستلام الطلب، يُعتبر التحليق العابر مسموحا به. ومع تطور العملية بمرور الوقت، ينبغي إبراز المسائل التي تشغل بال دول التحليق العابر ويمكن للمشغل أن يعالجها منذ البداية في الطلبات التي يقدمها إلى دول المنشأ، ودول العبور ودول المقصد.

٣-١-١ واقترح النظر أيضا في امتيازات الدول غير الواردة في خطة الطيران ولكنها تعتبر نقاطا لتغيير المسار في الأحوال الجوية أو حالات الطوارئ.

٤-١-١ وذكر أمين اللجنة فريق الخبراء بالحقوق التي تتمتع بها الدول على أراضيها على النحو المنصوص عليه في المادة ٣٥ ب) من اتفاقية شيكاغو. ومع أن أمين اللجنة يقر بأن حفظ الدول للسيادة على مجالها الجوي هو إحدى الركائز الأساسية للاتفاقية مع الإدراك في الوقت نفسه بأن دولة التحليق العابر قد تكون أقل اهتماما مقارنة بالدول المعنية الأخرى فيما يتعلق بمنح الإغفاء، فقد اقترح تعديل الملحق الثامن عشر بحيث يمنح دولة التحليق العابر فترة زمنية محددة لدراسة الطلب. وتيسيرا للمناقشة، اقترحت فترة مدتها ٣٠ يوما. غير أنه في حالة عدم رد الدولة في غضون هذه المهلة، يعتبر طلب الحصول على الإغفاء مقبولا. وبطبيعة الحال، في حالة رد الدولة، تتبع الإجراءات العادية. وبناء عليه، يمكن لدول التحليق العابر المهتمة بالحصول على طلب محدد بشأن الإغفاء أن تنتظر في ذلك الطلب وبالتالي عدم التنازل عن السيادة على مجالها الجوي والعمل، في الوقت ذاته، على عدم تأخير طلب الحصول على الإغفاء بسبب مجرد غياب المشاركة في العملية.

٥-١-١ ويحظى الاقتراح بتقدير كبير من حيث المضمون، لأن طلبات الحصول على الإغفاء من دول التحليق العابر تطرح مشكلات عملية عديدة يسعى الأعضاء إلى حلها. ومع ذلك، تبقى مسائل عالقة ينبغي معالجتها تتمثل فيما يلي:

أ) أعرب بعض أعضاء فريق الخبراء عن قلقهم إزاء افتراض أن غياب رد يعني منح الإغفاء؛ ودون تقديم دليل خطي، فإن تغيير المسار إلى دولة لم تقدم ردا يمكن أن يعرض طاقم القيادة للخطر. ووافق أحد كبار

الموظفين العاملين بإدارة العلاقات الخارجية والشؤون الخارجية على أن من شأن ذلك أن يطرح مشكلة، مقترحاً أنه ينبغي أن يحمل طاقم القيادة معه نسخة من الإعفاء مصحوبة بوثيقة تتضمن القاعدة الواردة في الملحق الثامن عشر. ويعتبر ذلك مجرد اقتراح ويمكن للإيكاو أن تدرسه بعناية إلى جانب الخيارات الأخرى؛

(ب) قد يعني غياب الرد أن السلطة المختصة لم تتسلم قط طلب الحصول على الإعفاء. وليس من الممكن دائماً التحقق من تقديم هذا الطلب إلى السلطة المختصة. وترى الأمانة العامة أن ذلك يطرح مشكلة لأن دولا عديدة لم تبلغ الإيكاو باسم السلطة المختصة المسؤولة داخل إدارتها عن ضمان الامتثال عملاً بالفقرة ٢-٧ من الملحق الثامن عشر وعلى النحو المفصل في الفقرة ١-١-١ من الجزء S-I؛ من الإضافة إلى التعليمات الفنية؛

(ج) يرى العديد من الأعضاء أن فترة ٣٠ يوماً طويلة. وغالبا ما تُمنح الإعفاءات للاستجابة لحالات الطوارئ التي يكون فيها الوقت عنصراً حاسماً. ووضعت بعض الدول نظاماً للتصدي لحالات الطوارئ فيما يخص هذه الأنواع من الإعفاءات. وبناء عليه، يرى أغلب الأعضاء أن فترة ١٤ يوماً جداً ملائمة. ويرى آخرون أنه بالرغم من أن فترة ١٤ يوماً ملائمة في معظم الحالات، إلا أنها قد لا تكفي في حالات غير حالات الطوارئ. وأعرب العديد من الأعضاء عن ترحيبهم باقتراح يقضي باحتساب فترة ١٤ يوماً اعتباراً من استلام الإعفاء الذي تمنحه دولة المنشأ؛

(د) لا يحل الاقتراح المشكلات المقترنة بالمسارات المرنة للطائرات التي تجعل من المستحيل تقريباً التنبؤ بدول التحليق العابر. ومن الحلول المقترحة لحل هذه المشاكل ربط الإعفاء بالمسار المقرر الذي يتعين على مراقبي الحركة الجوية مراعاته.

٦-١-١ وأبرز ممثل عن إحدى المؤسسات العسكرية الحكومية الدولية كيفية التعامل مع التصاريح الدبلوماسية في المجال العسكري. وينطوي ذلك على تدخلات سياسية ونظام يقوم على الاتفاقات الثنائية ومبدأ المعاملة بالمثل. وفيما يلي ثلاث استراتيجيات مقترحة تيسيراً لعملية الإعفاء بطريقة مماثلة:

(أ) إلغاء ضرورة الحصول على الإعفاءات بين الدول المشاركة - لن تكون هناك ضرورة لإعفاءات إضافية؛

(ب) في حالة عدم التوصل إلى إلغاء الإعفاءات بين الدول، تقليص حالات التأخير قدر الإمكان؛

(ج) قيام الدول المشاركة بإعداد واستخدام نماذج الطلبات الموحدة للدول المشاركة.

٧-١-١ ونظر فريق الخبراء مجدداً وبايجاز في إمكانية إزالة دولة التحليق العابر من عملية الإعفاء مع إمكانية قيام الدول بالإبلاغ الاختلاف مع الملحق الثامن عشر. وأعرب أحد موظفي الشؤون القانونية عن قلقه إزاء إمكانية تعارض ذلك الحل مع المادة الحادية عشرة من الاتفاقية.

٨-١-١ ونوقشت إمكانية طلب الحصول على مشورة الدول في هذا الصدد. ويرى موظف الشؤون القانونية أن هذا الإجراء هو نهج إيجابي، لكنه ينبغي الحرص على ضمان حفظ الدول للسيادة على مجالها الجوي.

٩-١-١ وفي ضوء الأهمية التي يوليها فريق الخبراء ولجنة الملاحه الجوية لهذه المسألة، اقترح أمين اللجنة أن يوصي فريق الخبراء بأن تحيل اللجنة التعديل المقترح، استناداً إلى تعليقات فريق الخبراء، على الدول والمنظمات الدولية لإبداء تعليقاتها.

والهدف من كتاب المنظمة هو الحصول على تعليقات محددة على مسائل أثارها فريق الخبراء. وقد وافق فريق الخبراء على اتباع هذا النهج.

١٠-١-١ التوصية

١-١٠-١-١ في ضوء المناقشة سألقة الذكر، أصدر الاجتماع التوصية التالية:

القواعد والتوصيات الدولية	التوصية ١/١ - تعديل الأحكام المتعلقة بمجال التطبيق العام الواردة في الملحق الثامن عشر
	قيام الدول بإبداء تعليقاتها على تعديل مقترح إدخاله على الملحق الثامن عشر فيما يتعلق بمسؤوليات دولة التحليق العابر في عملية الإعفاء.

٢-١ المهام الإشرافية للدول (DGP/23-WP/48)

١-٢-١ ناقشت اجتماعات الفريق العامل عدم إمام بعض الدول بجميع جوانب مسؤولياتها في مجال التفيتش والمراقبة والإفاد والمهام الإشرافية للمشغلين، وهو ما توصلت إليه عمليات تفيتش مراقبة السلامة. وهناك إقرار بأن أمن سلسلة الإمدادات يتوقف على جميع الهيئات التي تقوم بمهام على النحو المنصوص عليه في لوائح البضائع الخطرة وينبغي أن تخضع لإشراف الدولة. وأبلغ بعض أعضاء فريق الخبراء عن وجود صعوبات تتعلق بالتطبيق بسبب العدد الكبير للشاحنين في بلدانهم. أما الأعضاء الآخرون في فريق الخبراء الذين وضعوا آليات لمراقبة السلامة في بلدانهم فقدموا إرشادات (انظر الفقرة ٣-٢).

٢-٢-١ وقدم اقتراح بتوضيح المسؤوليات الإشرافية للدول في شكل تعديل على الفقرة ١-١١ من الملحق الثامن عشر. وحظي التعديل بالموافقة. ولوحظ أن اعتماد هذا التعديل سيثبت بدرجة أكبر الحاجة إلى وجود أحكام تشغيلية بشأن البضائع الخطرة في الملحق السادس والمطروحة في ورقة العمل DGP/23-WP/100.

٣-٢-١ التوصية

١-٣-٢-١ في ضوء المناقشة سألقة الذكر، أصدر الاجتماع التوصية التالية:

القواعد والتوصيات الدولية	التوصية ٢/١ - تعديل أحكام الملحق الثامن عشر بشأن نظم التفيتش
	تعديل الملحق الثامن عشر بحيث يوضح أن جميع الهيئات التي تضطلع بالمهام المنصوص عليها في اللوائح المتعلقة بالبضائع الخطرة تخضع لإشراف الدول.

٣-١ التعاريف

١-٣-١ تعديل تعريف المصطلح "رقم الأمم المتحدة" (DGP/23-WP/49)

٢-٣-١ اتفق على إدخال تعديل على تعريف المصطلح "رقم الأمم المتحدة" الوارد في الملحق الثامن عشر. واقترح التعديل لأول مرة في الاجتماع العاشر للفريق العامل التابع لفريق الخبراء. وبوالم التعديل بين التعريف الوارد في الملحق الثامن عشر والتعريف الوارد في لوائح الأمم المتحدة النموذجية وفي التعليمات الفنية.

٣-٣-١ تعديل تعريف مصطلح "دولة المنشأ" وإضافة تعريف جديد لمصطلح "دولة المقصد" (DGP/23-WP/49)

٤-٣-١ أضيف تعريف جديد لمصطلح "دولة المقصد". ونظرا لاستخدام هذا المصطلح في الفقرة ٤-١-٢ فيما يتعلق بمنح الإعفاءات، جرى اتفاق عام على أنه من المفيد إضافة تعريف بحيث يساعد على تطبيقه على نحو متسق. واستخدم هذا المصطلح أيضا في جميع التعليمات الفنية.

٥-٣-١ وتباينت الآراء بشأن كيفية تعريف هذا المصطلح. وكان هناك إقرار بأن المقصد النهائي للشحنة قد لا يكون دائما في نفس مطار الدولة الذي أُفرغت فيه الشحنة آخر مرة. واتفق على إدخال تعديل قد يشمل جميع السيناريوهات الممكنة.

٦-٣-١ وسعيًا لتحقيق التوافق مع التعريف الجديد، اعتُبر أنه من الضروري إدخال تعديل تبني على تعريف مصطلح "دولة المنشأ".

٧-٣-١ التوصية

٨-٣-١ في ضوء المناقشة سألقة الذكر، أصدر الاجتماع التوصية التالية:

التوصية ٣/١ - تعديل التعاريف الواردة في الملحق الثامن عشر القواعد والتوصيات الدولية

تعديل التعاريف الخاصة بمصطلح "رقم الأمم المتحدة" ومصطلح "دولة المنشأ" الواردين في الملحق الثامن عشر وإضافة تعريف جديد خاص بمصطلح "دولة المقصد"، كما يرد في مرفق التقرير عن هذا البند من جدول الأعمال.

APPENDIX**PROPOSED AMENDMENTS TO ANNEX 18****ANNEX 18****THE SAFE TRANSPORT OF DANGEROUS GOODS BY AIR**

...

CHAPTER 1. DEFINITIONS

...

See paragraph 1.3.3 of this report:

State of Destination. The State in the territory of which the consignment is finally to be unloaded from an aircraft.

State of Origin. The State in the territory of which the ~~charge consignment was~~ is first to be loaded on an aircraft.

...

See paragraph 3.1.1 of DGP/23-WP/2:

UN number. The four-digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods to identify a substance or an article or a particular group of substances or articles.

...

CHAPTER 2. APPLICABILITY**2.1 General applicability**

...

See paragraph 1.1 of this report:

2.1.4 For the State of Overflight, if none of the criteria for granting an exemption are relevant, an exemption may be granted based solely on whether it is believed that an equivalent level of safety in air transport has been achieved. The State of Overflight shall initially respond to the request to grant an exemption as soon as practicable but in any event within fourteen calendar days of receipt of the exemption granted by the State of Origin. In the absence of an initial response within that time, the exemption request shall be deemed to have been accepted.

...

CHAPTER 11. COMPLIANCE

See paragraph 1.2 of this report:

11.1 Inspection systems

Each Contracting State shall establish inspection, surveillance and enforcement procedures for all entities performing a function prescribed in its regulations for air transport of dangerous goods with a view to achieving compliance with ~~its dangerous goods~~ those regulations.

Note.— It is envisaged that these procedures would include provisions for the inspection of both documents and cargo ~~and operators' practices~~ as well as providing a method for the investigation of alleged violations (see 11.3).

البند ٢ من جدول الأعمال: إعداد توصيات لإجراء تعديلات على التعليمات الفنية للنقل الآمن للبضائع الخطرة بطريق الجو (الوثيقة (Doc 9284) لإدراجها في طبعة ٢٠١٣-٢٠١٤

١-٢ إقرار تقرير الفريقين العاملين (DGP/23-WP/2 و DGP/23-WP/3)

١-١-٢ استعرض الاجتماع الأجزاء السردية من تقرير اجتماعي الفريقين العاملين الجامعين DGP-WG/10 (أبو ظبي، الإمارات العربية المتحدة، ٧ إلى ١١ نوفمبر ٢٠١٠) و DGP-WG/11 (اتلانتيك سيتي، الولايات المتحدة، من ٤ إلى ٨ أبريل ٢٠١١). وتم إقرار الجزئين السرديين بدون تعليق. واستعرضت الاقتراحات التي قدمها الفريقان العاملان في ورقات العمل 30, 12, 11, 10, 9, 8, 7, 6, 5, 4, DGP/23-WP/ (انظر التقرير حول البند ٣ من جدول الأعمال)، ٤٩ (وكذا التقرير حول البند ١ من جدول الأعمال) و ٧٨ (انظر التقرير حول البند ٤ من جدول الأعمال) التي تتضمن هذه التعديلات مجمعة.

٢-٢ التعديلات على الجزء ١ من التعليمات الفنية: مبادئ عامة

١-٢-٢ مسودة التعديلات على التعليمات الفنية بغرض مواضعها مع توصيات الأمم المتحدة — الجزء ١ (DGP/23-WP/4)

١-١-٢-٢ استعرض الاجتماع التعديلات على الجزء ١ من التعليمات الفنية كي تعكس القرارات الصادرة عن لجنة الأمم المتحدة للخبراء المعنية بنقل البضائع الخطرة وبالنظام العالمي المنسق لتصنيف وتوسيم المواد الكيميائية (ويشار إليها لاحقاً في التقرير، توخياً للإيجاز، "لجنة خبراء الأمم المتحدة" في دورتها الخامسة (جنيف، ١٥ ديسمبر ٢٠١٠). وتعكس التعديلات أيضاً الاقتراحات التي وافق عليها الفريقان العاملان DGP-WG/10 و DGP-WG/11.

٢-١-٢-٢ وأشار إلى أن مسائل تتعلق بالتعريفات الجديدة للبضائع الخطرة التي صرّح بها بطريقة غير سليمة أو لم يصرح بها أثّرت في ورقات العمل DGP/23-WP/24 و DGP/23-WP/46 و DGP/23-WP/50 ونوقشت التعريفات الواردة في ورقات العمل تلك.

٣-١-٢-٢ واتفق من حيث المبدأ على تعديل التعريف الخاص بالكمية الصافية في اجتماع الفريق العامل DGP-WG/11 في انتظار مزيد من التعليقات من فريق الخبراء بخصوص صياغة مختلفة. ولكن لم تقدم أي تعليقات. وأعرب عن انشغال مفاده أنه بالرغم من أن التعريف المنقح يتناول أجزاء من المعدات، فقد لا يغطي مواد تدخل في تركيبية المعدات أو مواد تدخل في تركيبية الأجهزة مثل الزئبق في الأجهزة المصنعة. وتبين من الاستعراض الإضافي أن تبويب الزئبق في المواد المصنعة تحت الرقم UN3506، يحتاج إلى مزيد من التوضيح. وبناء عليه، اقترح تعديل التعليمات للتغليف ٨٦٩ (Packing instruction 869) ووافق عليه فريق الخبراء.

٤-١-٢-٢ وأعرب عن شواغل إزاء الأحكام الجديدة المتعلقة بالمواد المشعة عالية الخطورة منها:

(أ) ارتأى عدد كبير من أعضاء فريق الخبراء أن الأحكام تنتم بالتعقيد مما قد يؤثر على تيسير نقلها.

(ب) أشير إلى أنه بالرغم من أن حدود النشاط الإشعاعي متدنية جدا بالنسبة للأميريبيوم والاييريديوم فإن شحنات هاتين المادتين تعتبران شحنات عالية الخطورة. وهذا ما سيؤدي إلى صعوبات تشغيلية إضافية قد تسفر عن زيادة الحالات التي يرفض فيها شحنها.

(ج) طرحت تساؤلات بشأن مستوى مسؤولية المشغل في الحالات التي قد لا يكون فيها على علم بأن الشحنة تحتوي على مواد مشعة عالية الخطورة. وهذا ينطبق على الطرود المعفاة ذات الشكل الخاص والتي تتجاوز شروط أمن النقل المشار إليها في الجدول ١-٧. وقد تعتبر تلك الشحنة عالية الخطورة، ولكن لا ترد أي إشارة بذلك لا على الطرد ولا في وثيقة الشحن. ورفض مقترح يقضي بأن تُفرض الإشارة في وثيقة الشحن إلى أن الطرد يحتوي على بضائع عالية الخطورة، على أساس أن ذلك سيأتي بنتائج عكسية وقد يشكل تهديدا لأمن البضائع.

(د) وطرحت تساؤلات أيضا بشأن مستوى مسؤولية المشغل في الحالات التي يكون فيها إخطار السلطة المختصة لازما.

٢-٢-١-٥ وبالرغم من تفهم الانشغالات التي أعرب عنها، ارتئي وجوب إدراج تلك المواد في التعليمات بصفتها المعتمدة في النظام النموذجي للأمم المتحدة وفي التنظيمات المتعلقة بوسائل النقل الأخرى. وكانت الوكالة الدولية للطاقة الذرية قد أعدت تلك المواد على أساس أن ينطبق النص الجديد في مجالات تتجاوز النقل لتشمل الهياكل الثابتة على سبيل المثال.

٢-٢-١-٦ ولوحظ أن تحديد ما إذا كانت الشحنة عالية الخطورة أمر يقع على عاتق الشاحن في معظم الحالات. ومن المحتمل جدا أن هذه الأحكام لن تتسم بالتعقيد بالنسبة للشاحنين لأنهم عادة ما يكونون مدربين وعلى علم بمسألة المواد المشعة، ولا سيما فيما يتصل بالمنتجات المحددة التي يتولون شحنها. كما أن للمشغلين الجويين خطط لأمن البضائع تستند إلى القواعد القياسية الواردة في الملحق ١٧، وهو ما يميز النقل الجوي عن وسائل النقل الأخرى التي لا تتوفر لديها دائما خطط لأمن البضائع.

٢-٢-١-٧ واتفق على أن تُعتمد الأحكام الجديدة ضمن التعليمات، مع الاقرار بأنها غير ملزمة. لكن اتفق أيضا على أن تعرض الشواغل التي أبدتها فريق الخبراء على الوكالة الدولية للطاقة الذرية، ولا سيما من حيث صلتها برفض الشحنات. وأفيد بأن الوكالة كرست الكثير من الوقت لهذا الموضوع؛ وينبغي أن تعي العواقب المحتملة التي ستترتب على اعتماد الأحكام الجديدة الخاصة بأمن البضائع.

٢-٢-٢ البضائع الخطرة غير الخاضعة لجميع

أحكام التعليمات الفنية (DGP/23-WP/23)

(DGP/23-WP/54)

٢-٢-١-١ أشير إلى المناقشات التي أجراها الفريقان العاملان DGP-WG/10 و DGP-WG/11 بشأن الحاجة إلى مزيد من التوضيحات فيما يتعلق بالبضائع الخطرة التي لا تخضع لجميع مقتضيات التعليمات الفنية (ورقة العمل DGP/23-WP/2 (بالإنجليزية فقط)، الفقرة ٣-٢-٣ وورقة العمل DGP/23-WP/3 (بالإنجليزية فقط)، الفقرة ٣-٢-١). وكان هناك اتفاق عام في اجتماعي الفريقين العاملين على أن ينطبق الاستثناء في حالة معينة سواء على البضائع الخطرة المنقولة بصفتها شحنة وعلى تلك التي ينقلها الركاب وأفراد الطاقم بينما ينطبق الاستثناء في حالات أخرى على البضائع الخطرة المنقولة بوصفها شحنة. وانعقد فريق عامل مخصص لسرد كل واحدة من الحالات التي أشير فيها إلى الاستثناء وتحديد الحالة المنطقية. واقترحت تعديلات على أساس هذه الاستنتاجات.

٢-٢-٢-٢ وعرض على فريق الخبراء في اجتماعه الثالث والعشرين DGP/23 رأي معارض مفاده أن الجملة الأخيرة في الفقرة ١-٢ من الجزء ١ تحظر تطبيق هذه الاستثناءات على الأحكام الخاصة بالركاب (DGP/23-WP/23) وترد الجملة على النحو الآتي:

لا يحمل أي شخص بضائع خطيرة أو يعمل على نقل بضائع خطيرة على متن طائرة ضمن أمتعة مسجلة أو يدوية أو معه ما لم يسمح الفقرة ١-١-٢ من الجزء ٨ بذلك.

ودعي فريق الخبراء إلى النظر في عدم إضافة أي توضيحات إلى التعليمات الفنية، استناداً إلى النص الراهن.

٣-٢-٢-٢ وحظي هذا الاقتراح بقدر من التعاطف من حيث كونه سيشكل حلاً بسيطاً لمشكلة الحاجة إلى توضيحات، لكن فريق الخبراء اعتبر أن عدم تحديد الحالات التي تنطبق فيها الاستثناءات على الشحن قد يفسح المجال لتفسيرات مختلفة. وهذا هو السبب في تقديم الاقتراح الأصلي في المقام الأول.

٤-٢-٢-٢ واتفق على النهج الذي اعتمد في الاقتراح الأصلي. وجرى التسليم بأن تحديد نطاق كل واحدة من الاستثناءات سيجعل الحكم الوارد في الفقرة ١-٢ من الجزء ١ (المستسخ أعلاه) وفي الفقرة ١-١-١ من الجزء ٨ زائداً. ومع ذلك اتفق على الاحتفاظ بالبيانين كليهما لكونهما يوضحان الفلسفة العامة.

٥-٢-٢-٢ وعقد اجتماع لفريق مخصص لإجراء استعراض متعمق للمقترحات المقدمة في ورقة العمل DGP/23-WP/54 ومعالجة المسائل العالقة. واتفق على التعديل رهنا ببعض التعديلات الصياغية.

٣-٢-٢ الإبلاغ عن الحوادث (DGP/23-WP/33)

١-٣-٢-٢ قدم اقتراح بإدخال تعديل يوسع نطاق مسؤوليات الإبلاغ عن الحوادث والوقائع بما يتجاوز مسؤوليات المشغلين. وجاء ذلك الاقتراح تبعاً لمناقشات جرت في اجتماعي الفريقين العاملين DGP-WG/10 و DGP-WG/11 حول الاعتراف بالشاحن كعنصر أساسي في سلسلة الامدادات المأمونة وحول الصعوبات التي تواجهها بعض الدول التي تفتقر إلى الموارد الكافية لمراقبة الشاحن الذين يعملون داخل أراضيها. واقترح استحداث نظام للتفتيش يستند إلى نظام لتحديد الأولويات يقوم على تقييم المخاطر المتصلة بالسلامة كأداة لمعالجة هذه المشكلة (انظر الفقرة ٣-٢).

٢-٣-٢-٢ وأوحي بأن توسيع نطاق متطلبات الإبلاغ عن الحوادث بحيث تتجاوز المسؤوليات الملقاة على المشغلين من شأنه أن يرسخ الوعي بالحوادث والوقائع، مما قد يساعد الدول على تطبيق هذا النهج القائم على تقييم المخاطر ليشمل نظم الإشراف. وبالرغم من التسليم بأنه قد لا يكون من غير العادي أن يبلغ الشاحنون عن أنفسهم، فقد يدرك وكلاء الشحن وحتى المرسل إليهم عدم امتثال الشاحن لتتظيمات البضائع الخطرة وقد يودون الإبلاغ عن ذلك.

٣-٣-٢-٢ وكان هناك دعم للقصد من المقترح حيث إن من شأن زيادة الإبلاغ أن تشجع فهما أكبر للسلامة بصفة عامة ضمن سلسلة الامدادات. لكن كانت هناك بعض التحفظات إزاء المصطلحات المستخدمة في المقترح:

أ) إمكانية اختلاف التفسيرات بشأن تحديد وقت عرض نقل سلعة ما ووقت قبول العرض. واعتبر البعض أن وقت عرض الشحنة هو وقت خروجها من يد الشاحن وأنه ليس من الضروري قبول شيء ما تم عرضه.

(ب) تحديد ماهية الواقعة اعتبر أيضا قابلا لتباين التفسيرات. وأفيد بأن المشغلين عادة ما يرفضون شحنات ويعيدونها إلى الشاحن لاتخاذ إجراءات تقويمية. ولا يتم الإبلاغ عن الوقائع في هذه الحالات. ولوحظ أن الغرض من المقترح هو الأخذ بالتعريف الراهن للواقعة المقتبس من الفقرة ١ من الجزء ٣.

(ج) ووضعت علامات استفهام حول الفقرة الجديدة ٧-٢؛ وقدم توضيح مفاده أن هذه الفقرة تتناول الشحنات التي لا تحمل أي إشارات بضرورة رفضها، في وقت قبولها وحال انتقال الشحنة إلى شبكة النقل، فإن أحداثا من قبيل انكسار صندوق قد تؤدي إلى إدراك أن الشحنة لم تُعد بشكل جيد. وأشار إلى أن هذه الحالات ينبغي أن تعتبر حوادث تستدعي الإبلاغ.

(د) يتعين معالجة مسألة عدم علم عدد كبير من الكيانات بوجود شروط للإبلاغ. وهذا سوف يتطلب التدريب والتواصل، ولكن ارتئي أن الفوائد التي ستجني في مجال السلامة تستحق هذا العناء.

وجرى تبسيط التعديل أخذاً في الاعتبار تلك المسائل. وأيد فريق الخبراء الاقتراح مُقرّاً أن النص المنقح غير ملزم. وأشار إلى ضرورة إعادة النظر في هذا الوضع إذا ما تم اعتماد تعديل أحكام الملحق ١٨ الخاصة بنظم التفتيش (انظر الفقرة ١-٢). وجرى الاتفاق على التعديل بعد ادخال بعض التعديلات الصياغية.

٤-٢-٢ الجدولان ١-٤ و ١-٥ (DGP/23-WP/58)

١-٤-٢-٢ أشار إلى ضرورة تدريب عاملي الأمن ممن يتولون الكشف الأمني على الركاب الذين يعملون لدى مشغلين لا ينقلون بضائع خطرة بوصفها شحنا، وإلى أن مقتضيات التدريب هذه لا تتعكس في الجدول ١-٥. وأوحى بأن السبب وراء هذا الاسقاط في الجدول ١-٥ هو أن هذا الجدول موجه تحديداً إلى المشغلين، وأن عاملي الأمن لا يعملون بالضرورة لدى المشغل. واقترح إدراج ملاحظة جديدة بعد ١؛ ٤-٢-٧ لتوضيح ضرورة توفير التدريب بصرف النظر عما إذا كان مشغل الطائرة التي ينقل على متنها الركاب أو البضائع تنقل بضائع خطرة أم لا. واتفق على التعديل رهنا بحذف الجملة الثانية التي تشير إلى الجدول ١-٥ على أساس أنها تؤدي إلى لبس لا مبرر له.

٢-٤-٢-٢ واقترح أيضا ادخال تعديل على الرموز في الجدولين ١-٤ و ١-٥ بالنسبة لموظفي الفئة ١٠، بحيث تشمل المسؤولين عن التحميل. وأوحى بأنه ما من واحدة من الفئات مناسبة تماما لتغطي المسؤولين عن التحميل. وحتى إن بدا منطقيا ادراجهم ضمن فئة أفراد الطاقم (عوض طاقم الرحلة) فإن احتياجات المسؤولين عن التحميل في مجال التدريب لن تكون مشمولة بتلك الفئة. غير أنها ستكون مشمولة ضمن فئة أفراد طاقم الرحلة وفئة مخططي التحميل. واتفق على التعديل.

٥-٢-٢ البضائع الخطرة المعدة للاستخدام أو البيع على متن الطائرة (DGP/23-WP/64)

١-٥-٢-٢ لوحظ أن عددا كبيرا من المشغلين الجويين يعرضون مواد تتضمن بطاريات الليثيوم، في إطار الخدمات المتصلة بالمواد المعفاة من الجمارك. بيد أن هذه المواد لم تشملها الإعفاءات الممنوحة للمشغلين عن البضائع الخطرة (١-٢-٢-٢أ). واقترح إضافة الأجهزة الالكترونية المحمولة المجهزة ببطاريات الليثيوم إلى قائمة المعدات المسموح باستخدامها أو بيعها على متن الطائرة. واتفق على هذا الاقتراح.

٢-٥-٢-٢ واقترح كذلك حذف أعواد الثقاب المأمونة وقداحات الغاز المسيل من الجزء ١-٢-٢-٢أ (١-٢-٢-٢) لأن التدخين ممنوع الآن في جل طائرات الركاب. واتفق على إزالة أعواد الثقاب المأمونة من القائمة والاحتفاظ بقداحات الغاز المسيل لأن المشغلين لا يزالون يعرضونها للبيع.

٣-٥-٢-٢ واقتراح إجراء استعراض لقائمة المواد التي يُسمح حالياً ببيعها أو استخدامها على متن الطائرات للتأكد مما إذا كان يسمح بحمل بضائع خطرة أخرى غير مشمولة بالإعفاءات الممنوحة للمشغلين.

٤-٥-٢-٢ وأوحي بأنه ما لم تصدر الطبعة المقبلة من التعليمات الفنية، فإن المشغلين الذين ينقلون معدات تعمل ببطاريات الليثيوم سيكونون قد خالفوا تلك الأحكام. لكن اتفق على أن أحكام الفقرة الفرعية (أ) التي تجيز إعفاءات من الأحكام الخاصة بتتبع حمل تلك المعدات لحين بدء التطبيق العملي لطبعة ٢٠١٣-٢٠١٤ من التعليمات الفنية.

٣-٢ التعديلات على الجزء ٢ من التعليمات الفنية: تصنيف البضائع الخطرة

١-٣-٢ مشاريع التعديلات على التعليمات الفنية بغرض مواعمتها مع
توصيات الأمم المتحدة - الجزء ٢ (DGP/23-WP/5)

١-١-٣-٢ استعرض الاجتماع التعديلات على الجزء ٢ من التعليمات الفنية بحيث يعكس القرارات الصادرة عن لجنة الخبراء التابعة للأمم المتحدة في دورتها الخامسة (جنيف، ١٠ ديسمبر ٢٠١٠). وتعكس التعديلات أيضاً المقترحات التي كان قد وافق عليها الفريقان العاملان DGP-WG/10 و DGP-WG/11.

٢-١-٣-٢ ونوقشت في ورقة العمل DGP/23-WP/88 (انظر الفقرة ٢-٣-٥) الشواغل إزاء الملاحظة الجديدة في الفقرة ٦-٣-٢-٣-٧ والتي تتعلق بتصنيف المواد المعدية.

٣-١-٣-٢ وكانت قد أضيفت إشارة في الطبعة ١٥ المنقحة من النظام النموذجي إلى معايير تصنيف المواد المضرة بالبيئة وذلك في تصويب على طبعة ٢٠١١-٢٠١٢ من التعليمات الفنية. وأدرجت تلك الإشارة بغرض تحقيق الانسجام بين مختلف وسائل النقل، حيث إن المعايير الجديدة التي أدرجت في الطبعة ١٦ المنقحة وطبعة ٢٠١١ - ٢٠١٢ من التعليمات الفنية لن تدخل حيز النفاذ بشكل طوعي ضمن المدونة البحرية الدولية للبضائع الخطرة سوى في ١ يناير ٢٠١٣ (وتصبح إلزامية في ١ يناير ٢٠١٤). واتفق على حذف تلك الإشارة.

٤-١-٣-٢ وأشار إلى أنه ينبغي إضافة عبارة "الوطنية" بين عبارة "السلطة" وعبارة "الملائمة" في الملاحظة على الفقرة ٩-٣ من الجزء ٢ الجديد. وتمت الموافقة على ذلك.

٥-١-٣-٢ واتفق على التعديلات المقترحة للجزء ٢ بصيغتها المعدلة، رهنا بمزيد من التعديلات ستقترح أثناء مناقشة ورقة العمل DGP/23-WP/88 (انظر الفقرة ٢-٣-٥).

٢-٣-٢ توضيحات بشأن إدراج بعض السوائل القابلة للاشتعال
ضمن فئة التغليف الثالثة (DGP/23-WP/31)

١-٢-٣-٢ أوحي بأن الأحكام الواردة في الفقرة ٣-٢-٢ من الجزء ٢ والمتعلقة بإدراج السوائل اللزجة القابلة للاشتعال التي لها نقطة وميض، والتي كان ينبغي أن تدرج ضمن فئة التغليف الثانية، زائدة حيث إن الفقرة ٣-٢-٣ من الجزء ٢ تتضمن معايير تقتضي إدراج هذه المواد ضمن فئة التغليف الثالثة. وبناء على ذلك، اقترح حذف الفقرة ٢-٣-٢-٢.

وقيل إن الفقرة ٣-٢-٢ من الجزء ٢ تتضمن إشارة إلى الجزء الفرعي ٣-٣٢ من دليل الأمم المتحدة للاختبارات والمعايير لم يكن يرد في الفقرة ٣-٢-٣ من الجزء ٢. واقترح إضافة تلك الإشارة إلى الفقرة ٣-٢-٣ من الجزء ٢.

٢-٢-٣-٢ وأوحي كذلك بأن الشرط الوارد في الفقرة ٣-٢-٣ د) من الجزء ٢ والذي ينص على أن سعة الوعاء ينبغي ألا تتجاوز ٣٠ لترا، يحتاج إلى تغيير. وقيل إن الإشارة إلى سعة الوعاء غير مناسبة على اعتبار أن الوعاء تغليف وحيد وهذه القيمة تتجاوز حدود التغليف الداخلي المسموح بها حتى مواد مجموعة التغليف الثالثة على طائرات البضائع. ومن ثم فإن هذا الحكم لن يعود على الشاحنين بأي فائدة عندما يطبق على التغليفات الوحيدة على طائرة شحن. واقترح الرفع من حدود السعة لتصل إلى ١٠٠ لتر بالنسبة لطائرات البضائع والاستعاضة عن الإشارة إلى الأوعية بالإشارة إلى الكمية الصافية لكل طرد.

٣-٢-٣-٢ واتفق على أن أحكام الفقرة ٢-٢-٣ من الجزء ٢ زائدة وعلى أن صياغة المقترح الخاص بالفقرة ٣-٢-٣ من الجزء ٢ تحتاج إلى توضيح. لكن أعرب عن بعض الشواغل إزاء تنقيح الحدود الكمية المنصوص عليها في الفقرة ٣-٢-٣ د) من الجزء ٢. بيد أن معظم أعضاء الفريق وافقوا على المقترح على أساس أنه لا جدوى من هذا البند إذا خلا من أي فوائد أخرى. واتفق على المقترح رهنا ببعض التعديلات الصياغية في ترقيم الفقرات. وأفيد أن اللجنة الفرعية التابعة للأمم المتحدة ستبلغ بالتغييرات التي اتفق عليها فريق الخبراء.

٣-٣-٢ استخدام عبارة "محظور" (DGP/23-WP/42)

١-٣-٣-٢ توخيا للاتساق، اتفق في الاجتماع DGP-WG/11 على مقترح يقضي باستخدام عبارة "ممنوع" عوض "محظور" في بعض فقرات التعليمات الفنية. وأفيد، خلال المناقشات التي جرت في ذلك الاجتماع، إلى إعداد قائمة بجميع الحالات التي ترد فيها عبارة "محظور" في التعليمات الفنية كي يستعرضها فريق الخبراء في اجتماعه الثالث والعشرين. واتفق على أن يستعاض عن "محظور" بعبارة "ممنوع" في الحالات التي يتعلق فيها الأمر بمواد أو منتجات. وسوف تتولى الأمانة العامة عكس هذه التغييرات في التقرير.

٤-٣-٢ توضيح عناوين الأعمدة في الجدول ٢-١٢ (DGP/23-WP/63)

١-٤-٣-٢ نوقش اقتراح يقضي بتوفير عناوين أكثر وضوحا بالنسبة لحدود الأنشطة المنصوص عليها في الجدول ١٢-٢ (القيم الأساسية للنويدات المشعة بالنسبة للنويدات المشعة المنفردة) وأفيد أن الإشارة الحالية إلى A1 و A2 حاليا في العنوان يخلق صعوبات لا مبرر لها في تحديد العمود الذي ينبغي النظر فيه لدى البحث عن قيمة النشاط بالنسبة "لشكل خاص" أو "شكل آخر" ("special form" or "other form"). وكان على المستخدمين أن يلجأوا إلى التعاريف في بداية الفصل لأغراض التوضيح. وقيل إن وضع عناوين أوضح من شأنه أن يقلل من احتمالات الخطأ في نقاط قبول البضائع.

٢-٤-٣-٢ أبلغت أمينة الفريق أنها حاولت الحصول على تعليقات من الوكالة الدولية للطاقة الذرية التي لم تشعر بالارتياح التام إزاء الاقتراح. وقالت إن النص الوصفي "حد الأنشطة" (activity limit) لم يكن دقيقا حيث إن A1 و A2 لا يحددان حدود النشاط، وإنما يعكسان قيمة النشاط وبناء عليه اقترح حذف عبارة "حدا لأنشطة بالنسبة ل...". (Activity limit for) من العناوين، ووافق الفريق. وبعد أن أكدت الوكالة أن ذلك الحل مناسب، أعرب الفريق عن موافقته.

٥-٣-٢ المعدات الطبية أو التجهيزات التي بها مواد معدية (DGP/23-WP/88)

١-٥-٣-٢ اقترح بأن يدرج في الفقرة ١-٧-٣-٢-٣-٦ من الجزء ٢ من التعليمات الفنية استثناء جديد يتعلق بالمعدات الطبية أو التجهيزات الملوثة أو التي بها مواد معدية كان قد أضيف إلى الطبعة ١٧ المنقحة من النظام النموذجي

للأمم المتحدة. واتفق على هذا الاستثناء في اجتماع فريق العامل DGP-WG/11، رهنا بإضافة شروط جديدة تنطبق على النقل الجوي. وعرض على فريق الخبراء اقتراح جديد يتضمن هذه الشروط الإضافية. وقبل النظر في هذه الشروط أثيرت شواغل إزاء الفلسفة العامة التي تستند إليها تلك الاستثناءات.

٢-٣-٥-٢ بالرغم من أن إضافة الاستثناءات حظيت بالتأييد توخيا للتناغم بين مختلف وسائل النقل، ارتثي أنه ينبغي النظر مجددا في هذه المسألة داخل الأمم المتحدة. وأيد هذا النهج رئيس اللجنة الفرعية التابعة للأمم المتحدة، الذي حضر الاجتماع. وتبقي الاستثناءات على معايير التغليف في حدودها الدنيا بالنسبة للمعدات والتجهيزات الطبية، بيد أن العبارة (معدات وتجهيزات طبية) لم تعرف في الأحكام الجديدة. وفي غياب تعريف يحدد حجمها، أعرب عن شغل مفاده أن الاستثناءات يمكن أن تطبق على تجهيزات أصغر حجما بها مواد معدية من الفئة باء. واقترح تقديم توجيهات في التعليمات الفنية لتبديد تلك الشواغل، وإن ارتثي أن يعالج ذلك أولا داخل الأمم المتحدة.

٢-٣-٥-٣ بعد ذلك نظر فريق الخبراء في الشروط الإضافية المنطبقة على النقل الجوي والتي اقترح ادراجها في الأحكام. وتشمل شرطا يتعلق بالمواد الماصة، وهي وسيلة للوفاء بشرط الاحتواء والتوسيم الخاص بالغلاف الحاوي. وأثيرت بعض المسائل المتصلة بهذا التعديل على النحو التالي:

(أ) ارتثي أن شرط المادة الماصة شرط زائد نظرا لشرط غشاء مقاوم للتسرب أصلا. وتم حذف ذلك الشرط.

(ب) ارتأى البعض أنه ينبغي توضيح القصد من اختبار السقوط، أي ما معنى "قادر على تثبيت المعدات والتجهيزات الطبية؟" (capable of retaining medical devices and equipment). وحاج البعض الآخر أنه، بصرف النظر عن القصد، من الصعب إجراء هذا الاختبار على معدات ضخمة. وحيث إن هذا الشرط اقتبس مباشرة من النظام النموذجي للأمم المتحدة، فينبغي طرح هذا الموضوع على اللجنة الفرعية التابعة للأمم المتحدة.

(ج) أشير إلى وجود تناقض بين هذه الاستثناءات وملاحظة جديدة في الجزء ٢ من النظام النموذجي تتعلق بتصنيف المواد المعدية. وتسري الملاحظة على التجهيزات الطبية التي جففت من السائل غير الخاضع للتعليمات إذا ما تم تحييد الكائنات المسببة للمرض أو ابطال مفعولها. ولا تميز الملاحظة بين الفئة ألف أو الفئة باء. وكان فريق الخبراء قد اتفق أصلا على إدراج الملاحظة في الفقرة ٦-٣-٢-٣ من الجزء ٢ لدى مناقشة التناغم بين الجزء ٢ والنظام النموذجي، ولكن، بعد مزيد من التفكير، اتفق على عدم اعتماد الملاحظة. وقيل إن الإبقاء على الملاحظة من شأنه أن يؤدي إلى شحن غير منظم لمواد معدية من الفئة ألف بموجب الاستثناءات الجديدة. وسيعرض هذا الأمر على اللجنة الفرعية التابعة للأمم المتحدة.

٢-٣-٥-٤ تمت الموافقة على التعديل بصيغته المنقحة.

٤-٢ التعديلات على الجزء ٣ من التعليمات الفنية:
قائمة البضائع الخطرة، الأحكام الخاصة والكميات
المحدودة والمستثناة

١-٤-٢ مشاريع التعديلات على التعليمات الفنية بغرض
مواقتها مع توصيات الأمم المتحدة — الجزء ٣
(DGP/23-WP/6)

١-١-٤-٢ استعرض الاجتماع التعديلات على الجزء ٣ من التعليمات الفنية كي يعكس القرارات الصادرة عن لجنة الخبراء التابعة للأمم المتحدة في دورتها الخامسة (جنيف، ١٠ ديسمبر ٢٠١٠). وتعكس التعديلات أيضا المقترحات التي سبق للفريقان العاملان أن وافقا عليها (DGP-WG/10 و DGP-WG/11).

٢-١-٤-٢ واتفق على إدراج عبارة "فقط"، التي ترد بين قوسين معقوفين في البند الخاص A44.

٣-١-٤-٢ أُوحي بأن الجملة الأخيرة من البند الخاص A44 تفيد ضمنا بأن الإشارة إلى مجموعة التغليف في مستندات النقل اختيارية. وبما أن تحديد فئة التغليف في مستندات النقل قد يؤدي إلى خلط أثناء القبول فقد اتفق على الإشارة إلى عدم ذكرها وجوبا.

٤-١-٤-٢ وكانت هناك شواغل إزاء البند الخاص الجديد بشأن الكميات المحدودة من مواد القسم 1.4S وذلك فيما يتصل بشرط قدرة الطرد على اجتياز الاختبار. وارتئي بأن عبارة "قادر" (capable) كافية حيث إنها لن توفر ضمانا بخضوع الطرد للاختبار. وإذ أُشير إلى أن ورقة عمل جديدة ستقدم بشأن الكميات المحدودة من مواد القسم 1.4S، اتفق على العودة إلى هذا الموضوع لدى مناقشة التعديلات على الجزء ٤ من التعليمات الفنية.

٥-١-٤-٢ واعتبر العديد من أعضاء الفريق أن استثناء جديدا للبضائع الخطرة (أشير إليها سابقا بكميات "الحد الأدنى" (de minimis) من جانب الأمم المتحدة) والتي أعطيت لها رموز الكميات المستثناة E₁ أو E₂ أو E₄ أو E₅ ليس مكانها في الفصل الخاص بالكميات المستثناة (الفقرة ٥ من الجزء ٣). وبالرغم من الإشارة إلى رمز الكمية المستثناة في البند الخاص بالاستثناء لن تعتبر الإرساليات كميات مستثناة لدى نقلها بموجب الحكم الجديد. وإذ ارتأى عدد كبير من أعضاء الفريق بأن مكان هذا الحكم هو الجزء ١ الذي يتناول الاستثناءات العامة، اتفق على الإبقاء على النص في الفقرة ٤ من الجزء ٣ حتى يتحقق التواء مع توصيات الأمم المتحدة. وكحل وسط سيبرج الحكم في الباب الجديد ٥-٦ من الفقرة ٤ من الجزء ٣.

٦-١-٤-٢ اتفق على حذف عبارة "الكميات المستثناة من" في بداية الفقرة ٥-١-٤ من الجزء ٣ (الذي أصبح الآن الفقرة ٥-٦ من الجزء ٤) لذات السبب المبين أعلاه (وتلك ليست كميات مستثناة). وبالرغم من أن النظام النموذجي تضمنت "و" (and) في قائمة الرموز المنطبقة على الكميات المستثناة، اتفق على أن "أو" (or) أنسب. وسوف تبلغ اللجنة الفرعية التابعة للأمم المتحدة بالتغييرات التي وافق عليها فريق الخبراء.

٧-١-٤-٢ وأفيد بأن الأمم المتحدة كانت قد خصصت الرمز SP354 الذي يشير إلى التسمم بالاستنشاق، للمادة UN 2381 ثنائي كبريتيد ثنائي الميثيل (Dimethyl Disulphide). وأبلغ بأن الأمم المتحدة سحبت منذئذ الرمز SP354 وهو ما يوحي بوجود مبرر لتعديل المدخل في التعليمات. وارتأى الاجتماع أن هناك حاجة إلى مزيد من المعلومات قبل اتخاذ القرار. واتفق على العودة إلى هذه المسألة في وقت لاحق.

٢-٤-٢ الشروط الخاصة بمحاليل فورمالدهايد (DGP/23-WP/13)

١-٢-٤-٢ أوجي بأن المدخل في الجدول ٣-١ الخاص بمحلول فورمالدهايد الذي لا تقل نسبة فورمالدهايد فيه عن ٢٥٪، UN 2209 يعني ضمناً أن التركيزات التي تقل عن ٢٥٪ من فورمالدهايد غير خاضعة للتنظيم. وأفيد أن بعض القطاعات الصناعية والدول تنظم هذه التركيزات من خلال تصنيفها في إطار UN 3334 السائل المنظم في مجال الطيران، غير محدد بخلاف ذلك. واقترح إضافة هذا الشرط إلى التعليمات الفنية عبر حكم خاص جديد. وكان المقترح الأصلي قد ربط البند الخاص بالمادة UN 2259، بالرغم من أنه ارتئي أنه سيكون من الأنسب ربط البند الخاص بمدخل يتعلق بنوع جديد أخف من محلول فورمالدهايد تقل نسبة التركيز فيه عن ٢٥٪ من فورمالدهايد.

٢-٢-٤-٢ كان هناك تأييد عام للمقترح وإن أثرت بعض الشواغل إزاءه. وأعرب عن رأي مفاده أنه ينبغي مراعاة إمكانية إضافة مادة موازنة للفورمالدهايد. وفي هذه الحالة قد تنطبق معايير تصنيف أخرى وهذا أمر ينبغي النص عليه في المادة. وقدم اقتراح منقح يراعي هذا الجانب، واتفق عليه بعد ادخال بعض التعديلات الصياغية.

٣-٤-٢ الشروط الخاصة بالكميات المحدودة من المواد المضرّة بالبيئة (DGP/23-WP/14)

١-٣-٤-٢ اقترح عدم إخضاع المواد المضرّة بالبيئة التي حددت كمياتها بالنسبة لوسائل النقل الأخرى للتعليمات الفنية. وتم تكبير فريق الخبراء أنه قبل صدور طبعة ٢٠١١-٢٠١٢ من التعليمات الفنية، كان تصنيف المواد المضرّة بالبيئة اختيارياً بالنسبة للنقل الجوي لأن تلك المواد لم تكن تشكل خطراً على أفراد الطاقم أو الركاب أو الطائرة. واتخذ القرار بادراجها ضمن الصنف ٩ توخياً للتناغم مع وسائل النقل الأخرى وكذا لضمان توافر المعلومات المناسبة في حالة تسرب أو انسكاب، لدى مناوئتها في المطار، للتأكد بأن الأمر يتعلق بمواد مضرّة بالبيئة.

٢-٣-٤-٢ وقدم رأي مفاده أن الشروط الإضافية الخاصة بشحنات الكميات المحدودة المنقولة جواً، تتناقض مع المبررات المقدمة لتقنين المواد المضرّة بالبيئة حيث لا يوجد تناغم بين النقل الجوي ووسائل النقل الأخرى. وبناء عليه، أقرح حذف الأحكام الخاصة بالكميات المحدودة فيما يتعلق بالمواد المضرّة وادراج حكم خاص جديد ينص على أن الكميات المحدودة من المواد المضرّة للبيئة لن تخضع للتعليمات الفنية. وسوف يتضمن البند الخاص بذلك شرطاً بإضافة رقم الأمم المتحدة على الطرود المسجلة ككميات محدودة، بالنسبة لوسائل النقل الأخرى، إلى جانب علامة الكمية المحدودة التي يستوجبها النقل بهذه الوسائط.

٣-٣-٤-٢ لم يحصل الاقتراح سوى على قدر قليل من التأييد. وبالرغم من الاتفاق على أن المواد المضرّة بالبيئة تتطوي على مخاطر ضئيلة لدى نقلها جواً، إلا أن شحنات من هذه المواد تصل إلى المطارات بوسائل نقل أخرى. وارتئي أنه إذا تم اعتماد التعديل فإن وسيلة النقل الجوي ستكون أقل تقييداً من النقل البحري الذي يقتضي تقديم مستند نقل. وكان من رأي عدد كبير من أعضاء الفريق أن ذلك سيخلق حالة من اللبس ويؤدي إلى تأخير في عملية القبول. وكان هناك تعاطف مع هذا الرأي الذي ينطوي على مفارقة تتمثل في فرض شروط أكثر تقييداً على النقل الجوي في حين لا تنطوي المواد على مخاطر كبيرة لدى نقلها جواً. وبالرغم من ذلك أفيد أن الاقتراح يحيد عن الفلسفة العامة التي تستند إليها التعليمات الفنية. وقيل أن حل المشكلة ينبغي أن يأخذ في الاعتبار جميع وسائل النقل.

٤-٤-٢ الأحكام الخاصة بالمواد الكيميائية تحت الضغط
(UN 3500, 3501, 3502, 3503, 3504, 3505)
(DGP/23-WP/15 Revised)

١-٤-٤-٢ أضيفت ستة تبويبات جديدة للمواد الكيميائية تحت الضغط إلى النظام النموذجي. واقترح تعديل يتضمن الأحكام المنطبقة على هذه المواد في التعليمات الفنية.

٢-٤-٤-٢ وأبلغ الاجتماع أن المواد الكيميائية تحت الضغط هي مواد سائلة أو صلبة يُقذف بها من أوعية الضغط باستخدام مادة دامية؛ وتشبه تركيبها الكيميائية محتوى حاويات الأيروسول. ومنح لهذه المنتجات في الوقت الراهن رقم الأمم المتحدة UN 3161 (الغاز المسيل، لم يحدد بخلاف ذلك*) و UN 3163 (الغاز المسيل، القابل للاشتعال، لم يحدد بخلاف ذلك*) وذلك بالرغم من أن تلك الأرقام لا تصف المنتجات بشكل جيد. وانعدام وصف دقيق هو الذي دفع الأمم المتحدة إلى استحداث تبويبات جديدة خاصة "بالمواد الكيميائية تحت الضغط" في النظام النموذجي.

٣-٤-٤-٢ وقدم شرح مفاده أن الأحكام المنطبقة على الغازات المسيلة تستند إلى الخاصيات الفيزيائية للغاز، على أساس أن التلف الذي يلحق بالطرد قد يؤدي إلى إطلاق المحتويات برمتها. أما في حالة المواد الكيميائية تحت الضغط فإن مادة التشنيت هي وحدها غاز في حين أن البقية سوائل أو مواد صلبة، ومن ثم فإن الخطر المحتمل من الطاقة وخطر الإطلاق ليس بذات القدر الذي ينطوي عليه التسرب من طرد يحوي فقط غازاً أو غازاً مسيلاً.

٤-٤-٤-٢ واقترحت في الجدول ٣-١ حدود على كميات هذه المواد المنقولة على متن طائرات الركاب وطائرات البضائع. وروعت في الحدود المستحدثة بالنسبة للتبويبات الجديدة الحدود الراهنة المنطبقة على الأيروسولات والسوائل العادية والصلبة ضمن كل صنف، وكذا أصناف الأمم المتحدة UN 3161 و UN 3163. وأيد فريق الخبراء الكميات المقترحة وإن اعتبر أن ٧٥ كيلوغراماً ستكون أنسب للصنف UN 3501، ولم يسمح بادراج أحكام خاصة بالكميات المستثناة والمحدودة. كما لم يقدم لفريق الخبراء ما يكفي من البيانات لإقناعه بتطبيق حدود الكميات من الأيروسولات المنقولة من جانب الركاب على المواد الكيميائية تحت الضغط، باستثناء UN 3500. وبناء عليه، سوف تمنع كل المواد في التبويبات المتبقية على طائرات الركاب. وأُفرد حكم خاص هو الحكم A1 لهذه المواد الممنوعة لفسح المجال أمام دولة المنشأ ودولة المشغل لإعطاء موافقتها.

٥-٤-٤-٢ وتم تأييد إدراج حكم خاص جديد، رهنا ببضع التعديلات الصياغية.

٦-٤-٤-٢ وأعدت تعليمات تغليف جديدة (٢١٨) تنطوي على الشروط ذاتها الموجودة في النظام النموذجي (P206). وأشار إلى أن الاسطوانات المستخدمة في احتواء هذه المواد الكيميائية تحت الضغط متينة إلى حد كبير مقارنة مع الأيروسولات، والتعليقات المركبة والتعليقات الوحيدة. واقترح عدد من التنقيحات على التعليمات، كما يلي:

(أ) التعليقات الخارجية المتينة لا تشترطها تعليمات التغليف بالنسبة للأصناف UN 3161 و UN 3163، بالرغم من أنه أبلغ، لأسباب عملية، عن نقل الاسطوانات في تلك التعليقات. وأفاد بعض أعضاء فريق الخبراء أنهم يفضلون إضافة وسيلة الوقاية الجديدة هذه. واتفق، بناء على ذلك، على جعل استخدام تعليقات خارجية متينة إلزامياً.

(ب) استعيض عن عبارة "وعاء الضغط" (pressure receptacle) بعبارة "الاسطوانة" (cylinder) في كل هذا الجزء من التعليمات.

(ج) يُضاف شرط آخر يحد من طاقة الاسطوانات غير القابلة لإعادة الشحن، يرد في النظام النموذجي.

٧-٤-٤-٢ وافق على اقتراح منقح يستند إلى تعليقات فريق الخبراء، رهنا بتعديلات صياغية تدخلها الأمانة العامة.

٥-٤-٢ الأحكام الخاصة بأجهزة الكشف عن الإشعاع النيوترون (DGP/23-WP/17)

١-٥-٤-٢ ناقش فريق الخبراء اقتراحا يقضي بإضافة حكم خاص جديد بشأن أجهزة الكشف عن اشعاع النيوترون، التي تحتوي على غاز غير مضغوط يندرج ضمن القسم ٢-٣ (بورون ثلاثي الفلورايد UN 1008). وأفيد بأن الكشف عن النيوترون عنصر رئيسي يستخدم في منع الأسلحة النووية، إضافة إلى تطبيقات أخرى مثل رصد المفاعلات النووية، وعلاج السرطان باستخدام النيوترون، وتشظية النيوترون وتطبيقات الاختبارات غير الهدامة وفيزياء الصحة. وفي الوقت الراهن لا يمكن نقل المادة UN 1008 سوى وفقا للبند الخاص A2. وأبلغ عن اصدار موافقات في دولتين؛ وأضيف أنه من شأن توفير الظروف التي ستقل فيها أجهزة الكشف كبضاعة على نحو مأمون أن يبسر نشر هذه الكاشفات ويحسن من الاستجابة على الصعيد العالمي للتهديد المحدق بالأمن الذي تنطوي عليه بعض المواد المشعة.

٢-٥-٤-٢ كان هناك تأييد للاقتراح، مرده إلى التجربة التي اكتسبها بعض الأعضاء في نقل أجهزة الكشف بأمان بموجب أحكام مماثلة. وجرى قدر من المناقشة بشأن ما إذا كان ينبغي إضافة توجيه جديد بشأن التغليف أم لا، ولكن اتفق على الإبقاء على الأحكام الخاصة بالتغليف في البند الخاص وتمت الموافقة على الاقتراح، رهنا بالتتقيحات التالية:

(أ) أضيف شرط مفاده أنه ينبغي الإشارة في مستند النقل إلى ضرورة عدم ذكر رقم تعليمات التغليف.

(ب) أدرجت إشارة إلى ضرورة وضع علامة خطر على الغلاف، حيث لا ترد مثل تلك الإشارة في العمود الخامس من الجدول ٣-١.

(ج) تضاف إلى مسرد المصطلحات التوصيفات الواردة في الجزء السردى من ورقة العمل لأجهزة كشف اشعاع النيوترون ونظم الكشف عن الاشعاع.

٦-٤-٢ الأحكام الخاصة بالزئبق في المواد المصنعة لمواجهة المخاطر السمية الثانوية (DGP/23-WP/19)

١-٦-٤-٢ تم تذكير الاجتماع بقرار لجنة الأمم المتحدة منح الرقم UN 2809 للمخاطر الثانوية ضمن القسم ٦-١، الزئبق وإضافة تبويب جديد لقائمة البضائع الخطرة المنضوية تحت رقم UN 3506، الزئبق في المواد المصنعة. ولوحظ أن كلا القرارين استنسخا في ورقة العمل (DGP/23-WP/6)، وتم تذكير الاجتماع كذلك بشرط الفصل بين المواد في الفقرة ٢-٨ من الجزء ٧ من التعليمات الفنية، حيث يتعين فصل الطرود التي عليها علامات السموم من القسم ٦-١ عن الحيوانات والمواد الغذائية وغير ذلك من المواد الصالحة للأكل. وأبلغ بأن عددا كبيرا من المشغلين يفرضون قيودا على شحن الطرود التي تحمل علامة السموم، بالنظر إلى التحديات التشغيلية التي تطرحها شروط الفصل هذه.

٢-٦-٤-٢ قدم اقتراح يقضي بإضافة حكم خاص جديد يلغي الشرط الذي يفرض على أرباب الشحن التعامل مع شحنات الزئبق الموجودة في المواد المصنعة باعتبارها تنطوي على مخاطر سمية ثانوية. وأدلى بحجة مفادها أن السمية المحتملة للزئبق لا تنطبق عندما يوجد الزئبق في مواد مصنعة، حيث إن شروط التغليف الخاصة بالمواد UN 3506 تضمن بأن الزئبق سيظل داخل الطرد حتى وإن ألحق تلف بالمادة، ومن ثم من المستبعد جدا أن يلحق الأذى بالأشخاص أو البضائع.

٣-٦-٤-٢ تم الاتفاق على الاقتراح، رهنا بإضافة نص يقتضي الإشارة في مستند النقل إلى أن النقل تم بموجب هذا البند الخاص.

٧-٤-٢ الأحكام الخاصة ببطاريات طائرات تحتوي على أيون الليثيوم (DGP/23-WP/32)

١-٧-٤-٢ لوحظ أن البند الخاص A51 يسمح بنقل بطاريات الطائرات التي يتجاوز وزنها ٣٠ كيلوغراما (على ألا تتجاوز ١٠٠ كيلوغرام) وطبق على المادة رقم UN 2794 - البطاريات الرطبة المعبأة بالحمض والمادة رقم 2795، البطاريات، رطبة معبأة بالقلويات. وأبلغ بأن بطاريات الطائرات المعبأة بأيون الليثيوم توجد قيد الإنتاج وسيتم تكيفها مع الطرازات الجديدة من الطائرات مثل إيرباص A350 وبوينغ B-787. وينظر في استبدال بطاريات الخلايا الجافة التي جهزت بها طائرات أخرى هذه البطاريات، وذلك بغرض تخفيض الوزن التشغيلي للطائرات.

٢-٧-٤-٢ اقترح إدراج حكم خاص جديد يسمح ببطارية وحيدة في الطائرة بها أيون الليثيوم يتجاوز وزنها خمسة كيلوغرامات وهو الحد الأقصى في طائرات الركاب (على ألا يتجاوز الوزن ٣٥ كيلوغراما)، والمنطبق على المادة UN 3480 - بطاريات أيون الليثيوم. وهذا ما سيمكن المشغلين من نقل هذه البطاريات عندما لا تكون طائرات البضائع متاحة على بعض الطرق أو عندما تطلب هذه البطاريات بشكل مستعجل. وقدمت حجة مفادها أن معايير صلاحية الطيران التي تقضي بتركيب هذه البطاريات في الطائرات يعني أنه لن يتم تقويض السلامة.

٣-٧-٤-٢ وقدم اقتراحان للتعديل. يقضي الأول بإضافة حكم خاص جديد إلى التوبيب UN 3480، بطاريات أيون الليثيوم، في حين ينص الاقتراح الثاني على منح الرقم UN 3480 لحكم خاص معدل A51 ينطبق على التوبيب UN 2794 البطاريات الرطبة المعبأة بالحمض و UN 2795، البطاريات الرطبة المعبأة بالقلويات.

٤-٧-٤-٢ لم يحبذ بعض أعضاء فريق الخبراء الاقتراح. وأوصي بأن الامتثال لقواعد صلاحية الطيران لا يعني ضمنا بأن المعدات يمكن أن تنتقل بشكل آمن باعتبارها شحنات جوية؛ ولهذا السبب لا بد من الحصول على الموافقة. وأفاد أحد أعضاء فريق الخبراء أنه ناقش هذا الاقتراح مع مهندس يعمل بمكتب صلاحية الطيران في بلده، على إمام بالمعايير المنطبقة على البطاريات المركبة في الطائرات. وقال إن زميله المهندس أعرب عن اعتقاده بأن معايير اختبار البطاريات المركبة في الطائرات لا تستوجب معاملة خاصة لأغراض النقل. وأشار إلى أن معايير صلاحية الطيران مصممة بدقة لتعالج مسألة الأداء وكيفية التفاعل بين تلك البطاريات ونظم الطائرة.

٥-٧-٤-٢ حظي الاقتراح بتأييد الأغلبية. واتفق على تعديل البند الخاص A51.

٨-٤-٢ قائمة البضائع الخطرة - الأسبيستوس (DGP/23-WP/37)

١-٨-٤-٢ اتفق على اقتراح يقضي بإدراج إحالة مرجعية إلى الأسبيستوس الأبيض (UN 2590) مع المدخل الذي أُفرد حاليا للأسبيستوس. ولوحظ بأن التعديل لن ينسحب على التعليمات الفنية بمختلف اللغات.

٩-٤-٢ قائمة البضائع الخطرة - UN 1204 و UN 2059 حدود الكميات المستثناة E0 (DGP/23-WP/38)

١-٩-٤-٢ نوقش اقتراح يقضي بالاستعاضة عن رمز الكميات المستثناة "E0" المخصص حاليا لمحلول النيتروغليسرين في الكحول (UN 1204) ومحلول نيترات السليلوز، قابل للاشتعال (UN 2059) بالرمز "E2" المخصص لمجموعة التغليف الثانية والرمز "E1" المخصص لمجموعة التغليف الثالثة. ولوحظ أن تعليمات التغليف Y341 قد

خصصت لمجموعة التغليف الثانية و Y344 خصصت لمجموعة التغليف الثالثة من هذه المواد. وخصص لكل التبويبات الأخرى في الجدول ٣-١ التي تنطبق عليها التعليمات Y341 رمز الكميات المستثناة E2 في حين خصص للتبويبات المتبقية في الجدول ٣-١ التي تنطبق عليها التعليمات Y344 رمز الكميات المستثناة E1.

٢-٤-٩-٢ لم يحظ التعديل بالاتفاق. وارتئي بأنه مادامت المواد المعنية متفجرات أبطل معطلة مؤقتا، فقد كان للأمم المتحدة مبررات لعدم السماح بنقلها في كميات مستثناة. وقيل إنه إذا كان لا بد من النظر في التعديل، فينبغي طرحه على الأمم المتحدة أولا.

١٠-٤-٢ البند الخاص A75 (DGP/23-WP/41)

٢-٤-١٠-١ تم تكثير الاجتماع بأن البند الخاص A75 يجيز نقل بيروكسيد الهيدروجين، محلول مائي UN 2014، بكميات مستثناة شريطة أن يبين اختبار الحرائق المقارن بين الطرود التي تحتوي على المحلول والطرود المشابهة التي تحتوي مياها بأنه لا فرق بين نوعي الطرود في معدل الاحتراق. وقيل إن احتمالات اكتشاف فوارق واضحة باستخدام المعدات الحديثة الأكثر دقة أعلى منها باستخدام المعدات المتاحة عندما صيغت الشروط لأول مرة، ومن ثم استبعد من الاختبار نقل تلك الأجهزة الصغيرة في إطار البند الخاص. وقد تضمنت ورقة العمل DGP-WG/11 اقتراحا بإلغاء شرط اختبار الحرائق من البند الخاص، بيد أن فريق العمل لم يترح لإلغاء الشرط بأكمله واعتبر أنه من باب الحذر السماح ببعض الفوارق الصغيرة في معدلات الاحتراق.

٢-٤-١٠-٢ وقدم إلى الاجتماع اقتراح جديد يقوم على النهج الذي تعتمده الدول في اعطاء الموافقة لنقل تلك الأجهزة استنادا إلى درجات الحرارة القصوى المقارنة داخل الطرد الذي يتضمن بيروكسيد الهيدروجين مقابل الطرد الذي يحوي مياها. ولدى منع تلك الموافقة، فإن الدول تسمح أيضا بفتحات في الطرد تتيح التسرب البطيء للغاز مدى دورة حياة الطرد. واقترح بأن يضاف هذا المقتضى إلى البند الخاص.

٢-٤-١٠-٣ كان هناك تعاطف مع القصد من الاقتراح، ولكن فريق الخبراء أراد الحصول على مزيد من المعلومات قبل اتخاذ القرار، ومن ذلك:

(أ) بيانات للتدليل على حدوث انحراف حراري بـ ٢٥٠ درجة؛

(ب) درجة تهوية أكثر دقة.

وجرى تناول هاتين المسألتين في اقتراح منقح. ووفق عليها رهنا بالاستعاضة عن "يقل عن ٠,١ ملل في الساعة" بعبارة "لا يزيد عن ٠,١ ملل في الساعة".

١١-٤-٢ المواد المضرة ببيئة الصلبة غير المحددة

بخلاف ذلك UN 3077 (DGP/23-WP/53)

٢-٤-١١-١ أفيد بأن الحكم الجديد الذي أضيف إلى طبعة ٢٠١١-٢٠١٢ من التعليمات الفنية بشأن الحاويات المتوسطة للشحنات السائبة لنقل المواد المضرة ببيئة الصلبة غير المحددة بخلاف ذلك UN 3077، لم ينعكس في العمودين ١١ و ١٣ من الجدول ٣-١. وبناء عليه، قدم اقتراح بزيادة الكمية القصوى الصافية لكل طرد إلى ١٠٠٠ كلغ.

٢-٤-١١-٢ لم يكن هناك قدر كبير من التأييد للاقتراح، حيث ارتئي بأن صافي الكمية القصوى المسموح بها بالنسبة للمواد المضرة بالبيئة، صلبة لا تنطبق إلا في حالة استخدام الحاويات المتوسطة للشحنات السائبة. ولا تسمح التعليمات الفنية، في أي فصل منها، باستخدام تلك الحاويات، كما أن عددا كبيرا من الناس ليسوا متعودين على تلك الحاويات، مما قد

يؤدي إلى سوء تفسير لعبارة الكمية الضخمة. وقدم رأي مفاده أنه لا حاجة إلى صافي الكمية القصوى في الجدول ١-٣ لأنها مُعرّفة بما فيه الكفاية في البند الخاص.

٢-٤-١١-٣ وكان هناك، مع ذلك، اتفاق بأن النص التفسيري الذي يسبق الجدول ١-٣ قد يحتاج إلى استعراض حيث إن الوصفين الواردين في العمودين ١١ و ١٣ يشيران إلى أنه لا يمكن تجاوز الكميات سوى على النحو المسموح به في الإضافة مع موافقة السلطات الوطنية المعنية لدولة المنشأ ودولة المشغل.

١٢-٤-٢ - الجدول ١-٣ - قائمة البضائع الخطرة (DGP/23-WP/68)

٢-٤-١٢-١ أبلغ عن حالات عدم الاتساق في الاحالات المرجعية المذكورة في الجدول ١-٣. وأفيد بأن بعض التبويبات تحيل إلى أسماء شحن خاصة لم تعد موجودة في حين تختلف تبويبات أخرى مع النظام النموذجي للأمم المتحدة. وتحيل بعض التبويبات إلى أسماء شحن خاصة متبوعة برقم الأمم المتحدة، بينما لا تتضمن تبويبات أخرى أرقام الأمم المتحدة.

٢-٤-١٢-٢ أُجري الاستعراض واقترحت تعديلات لتقويم أوجه عدم الاتساق. ولوحظت، خلال الاستعراض، أخطاء فيما يتعلق بالمواد أو الأشياء التي يمنع نقلها تحت أي ظروف (مثلا التبويبات التي تتضمن عبارة "ممنوع" (forbidden) في العمودين ٢ و ٣ من الجدول ١-٣). واقترحت تعديلات لتصحيح هذه الأخطاء.

٢-٤-١٢-٣ وأشير إلى أن الاستعراض كان على أساس الطبعة ١٦ المنقحة من النظام النموذجي، حيث إن الطبعة ١٧ لم تكن متاحة في وقت إعداد الاقتراح. وكان بعض أعضاء الفريق قد لاحظوا عدم الاتساق أثناء استعراضهم للتنظيمات وساعدوا صاحب الاقتراح في مواءمة الاقتراح مع الطبعة ١٧ المنقحة. وظلت بعض حالات الاتساق قائمة فيما يتصل بإدراج رقم الأمم المتحدة، ستعالجها الأمانة العامة. واتفق على التعديل.

١٣-٤-٢ استخدام علامة الكميات المحدودة (DGP/23-WP/74)

٢-٤-١٣-١ اقترح تعديل للأسلوب الذي صيغ به الحكم بالنسبة لعلامات الأصغر حجما الكميات المحدودة الأقل. وأفيد بأن النص سيتواءم مع الأسلوب الذي صيغ به الحكم بالنسبة لعلامة الخطر الأصغر حجما على الطرود التي تحوي مواد معدية.

٢-٤-١٣-٢ حظي الاقتراح بالموافقة

١٤-٤-٢ توضيح البنود الخاصة A46 و A50 و A77 (DGP/23-WP/77)

٢-٤-١٤-١ تمت الموافقة بدون تعليق على اقتراح بتعديل الأحكام الخاصة A46 و A50 و A77 لتوضيح أن اختبار الإجمالي لمقاومة التسرب لا ينطبق إلا على التغليف المنفردة، ومن ثم لا يسري على التغليف الداخلي من التغليف المركبة.

١٥-٤-٢ الأحكام الخاصة بالزئبق في المواد المصنعة (DGP/23-WP/86 و DGP/23-WP/87)

٢-٤-١٥-١ أُشير إلى أن فريق العمل قبل عدة اقتراحات بشأن الزئبق أثناء اجتماعه DGP-WG/11 ورفض البعض الآخر. وتمس القرارات التي اتخذت الجدول ١-٣ والأحكام الخاصة وتعليمات التغليف وأجزاء أخرى من التعليمات. وارتئي بأنه ينبغي لفريق الخبراء أن يعيد النظر في كل الاقتراحات المقدمة بخصوص رقم الأمم المتحدة UN 3506 بطريقة موحدة قبل أن يتخذ بشأنها قرارا نهائيا. وبناء على ذلك، قدمت التعديلات مجمعة إلى فريق الخبراء وطلب إليه أن يعيد النظر في بعض ما لم يتم اعتماده منها.

٢-٤-١٥-٢ اقترح القيام بتفقيح كامل لتعليمات التغليف ٨٦٩ بغرض إعداد مجموعة قياسية من المعايير لتغليف المواد المصنعة التي تحوي زنبقا. وكانت عملية التفقيح قد بوشرت في الاجتماع الحادي عشر للفريق العامل، حينما أُبلغ عن حالات عدم الاتساق وتعارض الشروط. وقدم اقتراح إلى الفريق العامل، خلال اجتماعه، لقي قدرا من التأييد بالرغم من طرح بعض الشواغل. وعولجت هذه الشواغل في اقتراح جديد قدم إلى فريق الخبراء في اجتماعه ٢٣، تضمن التعديلات التالية:

(أ) اعتبرت عبارة "ملفوف بشكل كامل" (Completely Jacketed) المستخدمة بالنسبة للصمامات الالكترونية قديمة واستعوض عنها بعبارة "مغلف" (packed).

(ب) أضيفت عبارة "مسدودة بإحكام" (sealed) بعد "وحدات بلاستيكية" في الملاحظات المتعلقة بالمحولات والمرحلات الزئبقية.

(ج) وتم نقل الاستثناء الخاص بميزان الحرارة، والمحولات والمرحلات التي تحوي ١٥ غراما أو أقل من الزئبق، إلى البند الخاص، مع التسليم بأن هذا البند الخاص يستثني أصلا المعدات الصغيرة التي تحتوي على الزئبق.

(د) تم الإبقاء على حدود الكميات "بدون أي حد".

(هـ) استعوض عن عبارة "الكمية الإجمالية لكل تغليف" (Total quantity per package) الخاصة بالتغليفات المركبة بعبارة "الكمية الصافية لكل تغليف" (Net quantity per package).

(و) يضاف رقم الأمم المتحدة UN 3506 إلى الفقرة من ٤-١-٢ الجزء ٣ بالقرب من الصنف ٨.

ولاحظ أحد أعضاء فريق الخبراء بأنه مادام قد خصص رقم الأمم UN 3506 للزئبق في المواد المصنعة فقط، فإن ذكر الاسم في عنوان التعليمات الفنية زائد ويمكن بالتالي حذفه.

٢-٤-١٥-٣ واتفق على التعديلات لتعليمات التغليف ٨٦٩ بصيغتها المعدلة.

٢-٤-١٥-٤ واقترح بأن يُدرج في البند الخاص A69 استثناء جديد لبعض المصابيح الكهربائية لم تُعالج تحديدا في تعليمات التغليف ٨٦٩. وأُبلغ بأن طائفة واسعة من المصابيح التي تستخدم في تطبيقات الإنارة التجارية تحتوي على كميات قليلة من الزئبق، وهي عادة ٧٠٠ ملغ، ولكن بعض المصابيح الأكبر التي تستخدم في تطبيقات خاصة تحوي كميات من الزئبق قد تصل إلى ٣,٥ غرامات. وقيل إن تلك المصابيح صممت بشكل متين وبأن كل واحد من تلك المصابيح يوضع بمفرده في جراب أو صندوق داخلي قبل لفها بأغلفة خارجية، وذلك بغرض شحنها جوا. وأدرج في الاقتراح شرط يقضي بإجراء اختبار للسقوط من علو نصف متر. واستند في هذا إلى معيار سار في القطاع (UN-D 1400) يُؤمن المنتجات ضد الأضرار أثناء نقلها ويكفل استلامها من المستخدم النهائي في حالة جيدة. ويستوجب ذلك المعيار إخضاع الطرود لاختبار السقوط بشكلها المعد للنقل.

٢-٤-١٥-٥ واتفق على التعديلات المقترحة للحكم الخاص A69 رهنا بالتفقيحات التالية:

(أ) أعيد ترتيب الفقرات الفرعية في قائمة الاستثناءات في البند الخاص A69 وفقا لما اعتبر ترتيبا منطقيا أكثر.

(ب) أضيف طابع عام على الاستثناء الخاص بميزان الحرارة والمحولات والمرحلات بإضافة عبارة "مواد من قبيل" (articles such as). وأشار إلى أن النص الحالي، الذي سيصبح الآن نص الفقرة الفرعية (أ)

في البند الخاص A69، يشير بصفة عامة إلى المواد؛ وبناء عليه، ينبغي أن تكون الفقرة الفرعية ب) محددة. ولكن أوضح بأن الفقرة الفرعية ب) تشير إلى المواد التي تحتوي على زئبق والتي تتركب كجزء لا يتجزأ من آلة أو جهاز في حين أن الفقرة الفرعية أ) لا تشير إلى ذلك.

١٦-٤-٢ البضائع الخطرة بكميات محدودة (DGP/23-WP/89)

١-١٦-٤-٢ أبلغ أنه بالرغم من أن الفقرة ٤-١-١ من الجزء ٣ يفيد بأن الكميات المحدودة من البضائع الخطرة يجب أن تفي بكل الشروط المنطبقة الواردة في التعليمات الفنية ما لم يُنص تحديداً على خلاف ذلك، فإن بعض الشاحنين يعتبرون أن شروط العلامات والمستندات لا تنطبق. وبناء عليه، اقترح إضافة قسمين جديدين في البند ٤ من الجزء ٣ ينص تحديداً على انطباق تلك الشروط.

٢-١٦-٤-٢ رأى بعض أعضاء فريق الخبراء بأنه لا لزوم لذئيك القسمين الجديدين لأن الفقرة ٤-١-١ من الجزء ٣ تنص أصلاً على أن الكميات المحدودة من البضائع الخطرة يجب أن تفي بجميع الشروط المنطبقة الأخرى الواردة في التعليمات الفنية ما لم ينص البند ٤ من الجزء ٣ على خلاف ذلك. وأضافوا بأن ادراج القسمين الجديدين سيكون عديم الجدوى وقد يحمل المستخدمين على الاعتقاد بأنه ما من شروط أخرى تنطبق إذا لم يُنص عليها تحديداً في أجزاء من التعليمات الفنية. وأبلغ أعضاء آخرون في الفريق أنهم تلقوا استفسارات عدة بشأن هذا الموضوع وأنهم يُقدرون التوضيحات التي ستوفرها الفقرات الجديدة.

٣-١٦-٤-٢ واتفق على التعديل، رهنا بفتح يشار فيه إلى الفقرة ٤-٧ من الجزء ٣ الجديد، وهو ما يوضح أن جميع الشروط المتعلقة بالمستندات تنطبق.

١٧-٤-٢ البند الخاص A117 (DGP/23-WP/92)

١-١٧-٤-٢ أبلغ بأن مضمون البند الخاص A117، والذي ينطبق على المواد UN 3291 (النفائات الطبية البيولوجية، غير محددة بخلاف ذلك؛ النفائات السريرية، غير محددة، غير محددة بخلاف ذلك، النفائات الطبية المقتنة، غير محددة بخلاف ذلك) لا يتسق مع أحكام التصنيف الأحدث للنفائات السريرية أو الطبية في الفقرة من ٦-٣-٥ الجزء ٢. وبناء عليه، اقترح تعديل البند الخاص A117.

٢-١٧-٤-٢ وكان الغرض من الحكم هو توضيح أن النفائات التي تتضمن مواد معدية من الفئة ألف لا يمكن أن تنقل كنفائات، حتى وإن لم يكن هذا القصد بيئياً للجميع. وأوحي بأن إعادة ترتيب الجملة من شأنه أن يوفر ذلك التوضيح. واتفق على ذلك.

٣-١٧-٤-٢ وتساءل بعض أعضاء فريق الخبراء حول ضرورة البند الخاص، على أساس أنه يكرر ما ورد في الجزء ٢. وأشار إلى أن هذا البند الخاص لم يدرج في النظام النموذجي. وارتأى آخرون أن البند الخاص يوفر آلية مهمة للسلامة. واقترح بأن يقدم اقتراح جديد لفريق الخبراء إذا ما اعتبر أي عضو في الفريق أن هناك ما يبرر إلغاء البند الخاص.

٤-١٧-٤-٢ واتفق على التعديل بصيغته المعدلة.

٥-٢ التعديلات على الجزء ٤ من التعليمات الفنية: تعليمات التغليف

١-٥-٢ مشروع التعديلات على التعليمات الفنية بفرض
مواءمتها مع توصيات الأمم المتحدة — الجزء ٤
(DGP/23-WP/7)

١-١-٥-٢ استعرض الاجتماع التعديلات على الجزء ٤ من التعليمات الفنية كي تعكس القرارات التي اتخذتها لجنة الخبراء التابعة للأمم المتحدة في دورتها الخامسة المعقودة في جنيف يوم ١٠ ديسمبر ٢٠١٠. وتعكس التعديلات أيضا المقترحات التي وافق عليها الفريقان العاملان في عام ٢٠١٠ و ٢٠١١.

٢-١-٥-٢ وناقش الفريق العامل (DGP-WG/11) مسألة إضافة التغليفات مع أعطية ثابتة إلى تعليمات التغليف في النظام النموذجي. وطلب من الفريق العامل أن يعلق، قبل الاجتماع ٢٣ لفريق الخبراء، على ما إذا كان ينبغي، أم لا، إضافة تلك المسألة إلى التعليمات. وبالنظر إلى عدم اعتراض أي أحد، أضيفت التغليفات بأعطية ثابتة إلى تعليمات التغليف المنطبقة.

٣-١-٥-٢ وأثير التساؤل حول ادراج بيان في تعليمات التغليف ٢١٤ يفيد بأن النقل على طائرات الركاب ممنوع على أساس أن هذا الأمر محدد أصلا في الجدول ٣-١. واتفق على سحب البيان لكونه لا يرد في أي تعليمات تغليف أخرى ولكونه قد يدفع بالمستخدمين إلى أن يفسروا عدم تكرار البيان بشأن منع النقل على طائرات الركاب بأنه يعني السماح بالنقل على طائرات الركاب.

٤-١-٥-٢ ونوقشت تعليمات التغليف المتصلة بخلايا الوقود في إطار ورقة العمل DGP/23-WP/44 وتعليمات التغليف المتصلة بالمواد الكيماوية تحت الضغط في إطار ورقة العمل DGP/23-WP/15.

٥-١-٥-٢ وحيث إن مكونات الكلوروزيلان في تعليمات التغليف ٣٧٧ و ٦٨١ أصبحت الآن ممنوعة على طائرات المسافرين، فإن الأعمدة الخاصة بطائرات الركاب تحت باب التغليفات المركبة ستحذف. كما سيحذف النص الزائد الذي يشير إلى طائرات البضائع فقط بالنسبة للتغليفات الوحيدة.

٦-١-٥-٢ وأما النص الجديد في نهاية تعليمات التغليف ٦٢٢ والذي يقتضي أن تستجيب التغليفات لمستوى الأداء الخاص بالمجموعة الثانية بالنسبة للمواد الصلبة فاعتبر زائدا وتم حذفه.

٧-١-٥-٢ وأضيفت عبارة "فقط" (only) بعد البضائع الخطرة في النص الجديد لتعليمات التغليف ٩٦٠. وكان الغرض هو مواءمته مع البند الخاص A44.

٨-١-٥-٢ وأشار إلى أن استثناء جديدا يتعلق بمعدات النجاة أدرج في البند الخاص ٢٩٦ من النظام النموذجي للأمم المتحدة. واتفق على أن يدرج هذا الاستثناء في التعليمات الفنية ٩٥٥.

٩-١-٥-٢ وتتيح التعليمات الفنية ٩٦٥ و ٩٦٨ حاليا خياراً لتخزين البطاريات الضخمة في أغلفة خارجية متينة أو أعطية واقية. وحذف هذا الخيار من تعليمات التغليف ٩٦٥ بحذف "أو"، بما يتماشى مع الأمم المتحدة. ولوحظ أن فاصلة (،) ترد بعد الطرود (packagings) في النظام النموذجي، واتفق على إضافة تلك الفاصلة (،). وقيل إن النص ستم مواءمته أيضا في التعليمات الفنية ٩٦٨.

١٠-١-٥-٢ أشار إلى وجود خطأ مطبعي في التعليمات الفنية ٩٦٥ حيث وردت عبارة "Slated" عوض عبارة "slatted".

٢-٥-٢ تنقيح تعليمات التغليف Y203 (DGP/23-WP/18)

١-٢-٥-٢ نوقش اقتراح يرمي إلى الحد من حجم الأيروسولات التي تحوي مواد سامة مسموح بها بموجب تعليمات التغليف Y203. وأبلغ بأن النظام النموذجي للأمم المتحدة تفرض حدودا على حجم الأيروسولات التي تحوي مواد سامة تشحن وفقا لأحكام الكميات المحدودة من خلال البند الخاص SP277. وقيل إن التعديل المقترح سيؤدي، بناء على ذلك، إلى المواءمة بين التعليمات الفنية والنظام النموذجي.

٢-٢-٥-٢ اتفق على الاقتراح، رهنا بعكس ترتيب الاشتراطيين الخاصين بحدود الطاقة تماشيا مع البند الخاص SP277.

٣-٥-٢ تعليمات التغليف لمواد القسم 1.4S بكميات محدودة (DGP/23-WP/36)

١-٣-٥-٢ أدرجت، في النظام النموذجي أحكام بشأن الكميات المحدودة بالنسبة لبعض الذخائر الاستهلاكية والأدوات الكهربائية في القسم 1.4S (أرقام الأمم المتحدة UN 0012 و UN 0014 و UN 0055). ووافق فريق العمل في اجتماعه في عام ٢٠١١ على أن تدرج تلك الأحكام أيضا في التعليمات الفنية للتنسيق بين وسائل النقل المتعددة. واتفق على إعداد تعليمات للتغليف تتصل بالكميات المحدودة تعرض على فريق الخبراء في اجتماعه الثالث والعشرين.

٢-٣-٥-٢ وقدم إلى اجتماع فريق الخبراء اقتراح يتضمن تعليمات للتغليف موحدة تحمل الرمز "Y" وتسري على جميع تلك المواد الثلاث، حيث ارتئي أنها ستشمل الخراطيش المتقاربة الحجم بصرف النظر عن استخدام رقم الأمم المتحدة. وتضمن الاقتراح أيضا زيادة في صافي الكمية القصوى لكل طرد ضمن الحد المقترح أثناء اجتماع ٢٠١١ للفريق العامل. وأبلغ أن ما بين ٩٠ و ٩٥ في المائة من وزن تلك المواد يتشكل من مواد خاملة وبأن الكمية الفعلية من البضائع الخطرة في طرد يزن ٢٠ كلف تتراوح بين ١ و ٢ كلف، موزعة بين مواد صغيرة ومتينة ليست لديها الطاقة لإشعال بعضها البعض.

٣-٣-٥-٢ ولوحظ بأن تعليمات التغليف التي تضمنها الاقتراح تبقى على رموز المواصفات التي حددتها الأمم المتحدة للتغليف الخارجية. وطرح تساؤلات حول المنطق الذي استند إليه حيث إن الفائدة الوحيدة من نقل بضائع خطيرة بكميات محدودة جوا هو الإعفاء من إخضاع الطرود للاختبار. ولم تفهم الفائدة المتوخاة من الكميات المحدودة في حالة فرض تغليفات الأمم المتحدة.

٤-٣-٥-٢ وأوحي بأن القصد من هذا الاقتراح هو معالجة بعض المشاكل العملية لدى نقل هذه المواد داخل دولة ما، حيث إن النص على انطباق علامة الكمية المحدودة على وسيلة النقل الجوي من شأنه أن يخفف من حدة تلك المشاكل. وارتأى بعض أعضاء فريق الخبراء بقوة أن الفلسفة العامة التي تسري على الكميات المحدودة لا ينبغي أن تتغير حسب الأحكام المعمول بها في دولة واحدة. وقيل إن ذلك من شأنه أن يؤدي إلى الخلط في البرامج التدريبية ويؤخر الفحص لأغراض القبول.

٥-٣-٥-٢ وسلّم بأن طردا يحوي مواد تحمل أرقام الأمم المتحدة UN 0012 أو UN 0014 أو UN 0055، وأعد وفقا للتعليمات الفنية، قد يستجيب لأحكام الكميات المحددة السارية على وسائل النقل الأخرى، وبالتالي قدم اقتراح بسحب الأحكام الخاصة بالكميات المحدودة بالنسبة لمواد القسم 1.4S وبإضافة حكم خاص ينص على انطباق علامات الكميات المحدودة على وسيلة النقل الجوي، بالنسبة للطرود التي تحوي هذه المواد.

٦-٣-٥-٢ ولم يحظ الاقتراح بالموافقة. وتسليما من فريق الخبراء أن الغرض من التعليمات أن تنطبق على الصعيد الدولي، ارتأى أنه من الأفضل حل هذه القضايا في الدول التي يواجه فيها الشاحنون صعوبات لنقل هذه المواد جوا، وذلك عوض حلها من خلال تعديل يتعارض والفلسفة العامة التي تستند إليها أحكام التعليمات الخاصة بالكميات المحدودة.

واعترف بأنه في حين لم يتم تحديد أي شواغل تتصل بالسلامة فيما يخص الطرود التي تحوي كميات محدودة من المواد UN 0012 أو UN 0014 أو UN 0055، ليست هناك حاجة إلى وضع علامات عليها تشير إلى الكميات المحدودة بالنسبة للنقل الجوي تحديداً. ولكن يمكن أن توضع عليها تلك العلامات عند نقلها بوسائل أخرى.

٤-٥-٢ تحديث الأحكام المتعلقة بخلايا الوقود: اللجنة الكهربائية
التقنية الدولية 62282-6-100 تصويب اللائحة الدولية
لخلايا الوقود (DGP/23-WP/44) والضميمة

١-٤-٥-٢ أجرى الفريق العامل في اجتماع عام ٢٠١١ مناقشة بشأن قيام اللجنة الكهربائية الفنية الدولية بتحديث أحكام اللائحة الدولية لسلامة خلايا الوقود المجهرية ومواصفات جديدة لسلامة خلايا الوقود المجهرية والوقود المتفاعل مع الماء. ووافق الفريق العامل مبدئياً على الاستعاضة عن الإشارة إلى IEC PAS 62282-6-1 بالإشارة إلى المواصفات المحدثة IEC 62282-6-100 في الفقرة ١-١-٢ (خ) و٤ (خ) من الجزء ٨ وفي تعليمات التغليف 216 و375 و496 و874.

٢-٤-٥-٢ وأبلغ أنه في أعقاب تلك المناقشات، استعرضت الجهات المصنعة لخلايا الوقود المنشور الجديد واكتشفت بعض الأخطاء والنقاط الغامضة. وتم نشر تصويبات بذلك، تضمن تصحيحات صياغية وطباعية لا تؤثر في شيء على المبادئ الفنية العامة التي استندت إليها اللائحة. وأبدى بعض أعضاء فريق الخبراء انشغالا إزاء قيام الفريق العامل في اجتماع عام ٢٠١١ برفع الحد المسموح به للفاقد من بخار حمض الفورميك (فورمات المثيل) أثناء اختبار فقدان الضغط. وأرجع التصويب الحد المنصوص عليه في PAS 62282-6-9 وأقر التصويب بالاجتماع عن طريق اقتراح الدول الأعضاء وهو الآن قيد الأعداد للنشر.

٣-٤-٥-٢ وإضافة إلى التصويب، أعد تعديل لـ62282-6-100 وعمم على الدول الأعضاء للتعليق عليه (التعديل ١). وحدد آخر أجل للتعليق في ٣ مارس ٢٠١٢. وقدم للدول الأعضاء عرض موجز بالمواد التي أدرجت في التعديل ومسوغات كل منها.

٤-٤-٥-٢ وأعرب بعض أعضاء الفريق عن عدم ارتياحهم للموافقة على إدراج التعديل في التعليمات حتى يتاح لهم وقت أكثر لاستعراض تلك التغييرات. وقد تم تبديد العديد من شواغل أولئك الأعضاء أثناء المناقشات عن طريق ممثل رابطة طاقة خلايا الوقود والهيدروجين. ولكن بعض الأعضاء أبدوا رغبتهم في التشاور مع الخبراء في دولهم قبل اتخاذ القرار.

٥-٤-٥-٢ وطلب من فريق الخبراء أن يقدم إرشادات بشأن كيفية إدراج ذلك التعديل من جانب الفريق وذلك في حالة الموافقة عليه في التعليمات قبل نشره. وكان من بين الاقتراحات يقضي بوضع الإشارة إلى التعديل بين قوسين معقوفين في تقرير فريق الخبراء عن اجتماعه الثالث والعشرين. وإذا ما أقر التعديل بدون تغيير ووافق عليه أعضاء الفريق بعد التشاور مع الخبراء في دولهم، سوف يسمح فريق الخبراء للأمانة العامة بإزالة الأقواس المعقوفة. وأثارت الأمانة مشكلة عملية محتملة تتعلق بتوقيت استعراض تقرير فريق الخبراء عن أعمال اجتماعه الثالث والعشرين من جانب المجلس. وأفادت أن استعراض التقرير سيتم في نهاية فبراير أو بداية مارس حسب البرنامج الحالي. وقالت إن الأمانة العامة ستبذل قصارى جهدها لنفاذي التضارب في التوقيت.

٥-٥-٢ أسهم الاتجاه على التغليفات المركبة التي تحوي
تغليفات داخلية "مغلقة بإحكام" (Hermitically Sealed)
(DGP/23-WP/45)

١-٥-٥-٢ ناقش الفريق العامل في اجتماع عام ٢٠١١ الخلط الذي تسببت فيه إضافة الإعفاء من وضع أسهم التوجيه على التغليفات الداخلية المغلقة بإحكام والتي يقل حجمها عن حد معين، وذلك تمثيلاً مع النظام النموذجي للأمم المتحدة.

٢-٥-٥-٢ وكان معنى عبارة "مغلقة بإحكام" قد نوقش في اجتماع اللجنة الفرعية التابعة للأمم المتحدة وكان الانطباع السائد، حسب تقرير ذلك الاجتماع، هو أن العبارة تعني الإغلاق بإحكام لمنع تسرب الهواء والبخار. وأشار إلى أن العبارة استخدمت في أجزاء عدة أخرى من النظام النموذجي مما يجعل من الصعب استخدام تعريف واحد.

٢-٥-٥-٣ وقدم رأي مؤداه أنه يمكن اعتبار كل التغليفات الداخلية مغلقة بإحكام، استناداً إلى شروط في التعليمات تقضي بأن تكون كل التغليفات الداخلية مغلقة بشكل مأمون بحيث لا تتسرب محتوياتها طوال عملية النقل. وهذا ما قد يحمل الشاحنين على الاعتقاد بأن أي طرد مركب يحتوي على تغليف داخلي لا تتجاوز سعته ٥٠٠ ملل لا يستوجب وضع أسهم تبيين الاتجاه.

٢-٥-٥-٤ وأوحي بأن الإستثناء يستهدف الطرود التي تحوي تغليفات داخلية ويتعين إحداث ثقب أو فتحة فيها لإطلاق محتوياته. وبناء على ذلك، اقترح تعديل يتضمن إشارة إلى ضرورة أن تكون التغليفات الداخلية من ذلك النوع. وكان هناك تأييد لذلك الاقتراح بالرغم من بعض الشواغل التي أعرب عنها. وقدم اقتراح منقح استخدمت فيه عبارة "لا يسمح بتسرب الغاز" (gas tight) ويتضمن أمثلة (أنابيب، أكياس، قنينات). وقيل إن إدراج عبارة "تفتح عن طريق الكسر أو إحداث ثقب" (that are opened by breaking or punching) من شأنه أن يضيف قدراً أكبر من الوضوح. وحظي التعديل بالموافقة رهنا ببعض التنقيحات الصياغية. وتقرر إبلاغ اللجنة الفرعية التابعة للأمم المتحدة بالتغييرات التي أقرها فريق الخبراء.

٢-٥-٦ تعليمات التغليف Y840 (DGP/23-WP/66)

٢-٥-٦-١ أُفيد أن الشروط الواردة في تعليمات التغليف Y840 والذي يقضي بإحاطة التغليفات الداخلية الزجاجية بتغليف بسيط قد سقط سهواً أثناء عملية إعادة تشكيل تعليمات التغليف. واقترح إدخال تعديل لإعادة ذلك الشروط. وطلب صاحب الاقتراح من فريق الخبراء إضافة عبارة "تُغلف وتوضع" (Packed and Placed) بدلا من عبارة "يجب أن توضع" (must be placed) قبل النظر في التعديل المقترح.

٢-٥-٦-٢ ووفق على التعديل. وأشار إلى أن التعليمات Y840 و Y841 تظهران كليهما في جدول تعليمات التغليف، وذلك بالرغم من أن الشرط ينطبق فقط على Y840. وسئل فريق الخبراء عما إذا كان ينبغي الفصل في تعليمات التغليف بين Y840 و Y841 ولكن اتفق على الإبقاء عليهما معا. وقيل إنه من الواضح أن الشرط ينطبق فقط على تعليمات التغليف Y840 بالنظر إلى مجموعة التغليف.

٢-٥-٧ تعليمات التغليف (DGP/23-WP/70)

٢-٥-٧-١ أُفيد بأن الشرط الذي تضمنته عدة تعليمات للتغليف والقاضي بأن توضع تبطينات مناسبة في التغليفات المنفردة المصنوعة من الألياف ينبغي أن ينطبق على البراميل المصنوعة من الألياف (IG) وصناديق الألواح الليفية (4G). وبناء عليه اقترح تعديل يضيف الألواح الليفية إلى الشرط. وأوحي أيضا أنه من غير المناسب إدراج الألياف في الشرط بالنسبة لتعليمات التغليف 470-471 و 487-491، حيث إن البراميل الليفية (IG) لا يسمح بها كتغليف وحيد في تعليمات التغليف تلك. وعليه اقترح تعديل بحذف "الألياف" من الشرط.

٢-٥-٧-٢ واتفق على التعديل

٢-٥-٨ توضيح الشروط الخاصة بالمواد الماصة في

تعليمات التغليف Y963 (DGP/23-WP/76)

٢-٥-٨-١ أوحي بأنه من غير المناسب الإشارة إلى السلع الاستهلاكية ضمن الصنف ٢ فيما يتصل بشرط المواد الماصة عندما يتعلق الأمر بالتغليفات الداخلية للزجاج أو الخزف لأن الأيروسولات من القسم ٢-١ هي وحدها التي سمح بها كسلع استهلاكية، وهي مواد لا يمكن أن تصنع إلا من المعدن أو البلاستيك. واتفق على حذف الإشارة إلى الصنف ٢.

٢-٨-٥-٢ واتفق على التعديل

٩-٥-٢ راتنج البولبيستر (DGP/23-WP/83)

١-٩-٥-٢ ناقش الاجتماع اقتراحا بتعديل تعليمات التغليف 370 و Y370 التي تنطبق على راتنج البولبيستر. وكان الاقتراح قد نوقش لأول مرة في اجتماع عام ٢٠١١ للفريق العامل واتفق عليه مبدئيا.

٢-٩-٥-٢ ولوحظ أن تعليمات التغليف 370 و Y370 تنص على حدود للكميات بالنسبة للتغليفات الداخلية التي تحتوي على مواد أساسية من الصنف ٣ من مجموعتي التغليف الثانية والثالثة. بيد أن حدود الكميات هي نفسها لمجموعتي التغليف كليهما وهي تتوافق مع الحدود الخاصة بمجموعة التغليف الثانية.

٣-٩-٥-٢ وأبلغ أنه نظرا لانطلاق مُركبات عضوية متطايرة من المواد الأساسية، أصبحت التوجيهات البيئية تفرض على الصانعين تقليص نسبة المحاليل في المادة الأساسية. وقد تحقق ذلك عادة بواسطة اضافات تكفل عدم تلاشي خصائص الاستخدام. وأفضى ذلك إلى زيادة جاذبية المنتج لأن المحاليل التي أضيفت لها جاذبية تقل عن ١ في العادة.

٤-٩-٥-٢ وأبلغ عن حدوث مشكلة ترتبط بالشحن في احدى الدول حيث كانت لمادة راتنج البولبيستر قد وضعت مع مواد أساسية من مجموعة التغليف الثالثة التي لها جاذبية محددة تتجاوز ١ بكثير، وهو ما جعل الراتنج تزيد عن الحد العام لوزن الطرد وهو ٥ كلغ. وأفيد بأنه لا يمكن تبرير اخضاع مواد مجموعة التغليف الثالثة لذات الحدود الخاصة بالكميات والمنطبقة على مجموعة التغليف الثانية، وقدم اقتراح برفع الحدود الكمية بالنسبة لمواد مجموعة التغليف الثالثة. وعلاوة على ذلك، تم تغيير هيكل جدول التغليفات المركبة ليصبح أيسر في الاستخدام.

٥-٩-٥-٢ ولوحظ أن موجز ورقة العمل يشير إلى ضرورة معالجة هذه المسألة داخل الأمم المتحدة. ولكن بعد التأمل، ارتئي أن ذلك غير ضروري لأن الأمم المتحدة لم تفرض أي حدود على المواد الأساسية.

٦-٩-٥-٢ واتفق على التعديل كما اتفق على تعديل تبقي للجدول ١-٣.

١٠-٥-٢ تعليمات التغليف 370 (DGP/23-WP/90)

١-١٠-٥-٢ لوحظ أن تعليمات التغليف Y370 التي تنطبق على مادة راتنج البولبيستر التي تحمل الرقم UN 3269 تتضمن شرطا لا يرد في تعليمات التغليف 370 لضمان مطابقته لمواصفات محددة. وأوحي بأن الاسقاط لم يكن متعمدا واقتراح إدخال تعديل لإضافة هذا الشرط إلى تعليمات التغليف 370.

٢-١٠-٥-٢ واتفق على التعديل

١١-٥-٢ تعليمات التغليف Y373 (DGP/23-WP/91)

١-١١-٥-٢ لوحظ أن تعليمات التغليف 373 التي تنطبق على خليط المركبتان السائل والقابل للاشتعال والسُمي غير المحدد، تتضمن شرطا للتغليف اضافيا بالنسبة للمركبة للتغليفات، وهو لا يرد في تعليمات التغليف Y373. وأوحي بأن الشرط ينبغي أن ينطبق أيضا على التعليمات Y373 حيث اقترح إدخال تعديل لإضافة ذلك الشرط.

٢-١١-٥-٢ واتفق على الاقتراح.

٦-٢ تعديلات على الجزء ٥ من التعليمات الفنية: مسؤوليات الشاحن

١-٦-٢ مشروع التعديلات على التعليمات الفنية بغرض
مواكمتها مع توصيات الأمم المتحدة — الجزء ٥
(DGP/23-WP/8)

١-١-٦-٢ استعرض الاجتماع التعديلات على الجزء ٥ من التعليمات الفنية بحيث يعكس القرارات الصادرة عن لجنة الخبراء التابعة للأمم المتحدة في دورتها الخامسة (جنيف، ١٠ ديسمبر ٢٠١٠). وعكست التعديلات أيضا ما اتفق عليه الفريقان العاملان اللذين اجتمعا في عام ٢٠١٠ و٢٠١١.

٢-١-٦-٢ واتفق على التعديلات رهنا ببعض التغييرات الصياغية الطفيفة في الفقرة ٤-١-٥-١ (الجزء ٥).

٢-٦-٢ البضائع الخطرة المجمع (DGP/23-WP/67)

١-٢-٦-٢ نوقشت الإرساليات المتعددة التي يعدها شاحنون مختلفون ثم تجمع بعد ذلك من طرف شخص آخر أو مؤسسة أخرى. ويشار إلى تلك الإرساليات عادة بأنها "المجمعة" ولكن لا يوجد تعريف لها في التعليمات الفنية. وبناء على ذلك اقترح إضافة التعريف.

٢-٢-٦-٢ واقترح كذلك إضافة شرط عام جديد في الفقرة ١-١ من الجزء ٥ يقضي بالفصل بين الطرود التي تحتوي على بضائع خطرة وتلك التي لا تحتوي عليها، قبل عرضها على المشغل (الفقرة ١-١ك) من الجزء ٥ الجديد). وأفيد بأن من شأن ذلك الشرط أن يقلص من احتمالات المناولة غير الضرورية للبضائع الخطرة من جانب المشغل قبل الفحص لأغراض القبول حيث تجتمع طرود البضائع الخطرة والطرود الأخرى التي ليست بها بضائع خطرة ضمن نفس الإرسالية.

٣-٢-٦-٢ وكان هناك تأييد للشرط العام الجديد في الفقرة ١-١ من الجزء ٥ مع التسليم بأن هذا الإجراء الاعتيادي معمول به أصلا بين الشاحنين ووكلاء الشحن والمشغلين. وارتأى بعض أعضاء الفريق، لدى النظر في التعريف المقترح للتجميع، بأنه من المفيد تعريف مصطلح عادة ما يستخدم في القطاع. بينما كان من رأي آخرين أن إضافة شرط بالفصل بين البضائع الخطرة والبضائع غير الخطرة يُغني عن التعريف.

٤-٢-٦-٢ وقدم اقتراح جديد يلغي تعريف التجميع إلى جانب الإشارة إلى التجميع في الفقرة ١-١ك) من الجزء ٥ الجديد. وأضيفت ملاحظة توضح أن الشرط الجديد ينطبق على الإرساليات المجمع.

٥-٢-٦-٢ كان من رأي بعض الأعضاء أنه ينبغي توسيع نطاق التعديل بحيث يستوجب تقديم مستند نقل منفصل لكل إرسالية. وارتأى آخرون أن ذلك غير ضروري وأنه يمكن تسجيل الطرود التي تحتوي على بضائع خطرة في نفس بيان الشحنة الجوية باعتبارها بضائع غير خاضعة للتعليمات الفنية. واقترح إضافة ملاحظة جديدة لتوضيح هذا الأمر.

٦-٢-٦-٢ وتمت الموافقة على التعديل المنقح.

٣-٦-٢ البند الخاص بالعلامات من الحجم الصغير (DGP/23-WP/85)

١-٣-٦-٢ لوحظ بأن النظام النموذجي للأمم المتحدة يسمح بوضع علامات أصغر على أي طرد شريطة أن تكون العلامات من الحجم العادي غير متناسبة مع مقاييس الطرد. وتتص التعليمات الفنية على هذا الاستثناء بالنسبة لطرود المواد المعدية ولمواد معينة من الصنف ٢، وذلك بالاستناد إلى لائحة المنظمة الدولية لتوحيد المقاييس. واقترح تعديل بتوسيع نطاق البند بحيث يشمل جميع البضائع الخطرة، على أساس أن من شأن ذلك أن ينسق بين وسائل النقل المتعددة. وأوحي كذلك بأنه من شأن التعديل أن يستبعد امكانية حجب بيانات السلامة المطلوبة الأخرى، من قبيل البيانات ذات الصلة باستخدام المواد، في الحالات التي يكون فيه حجم العلامات كبيراً مقارنة مع حجم الطرد.

٢-٣-٦-٢ وأوضح أحد المستشارين أن هناك شروط قانونية مختلفة بخصوص المعلومات على الطرود في بلدان المصدر والمقصد. وقال إن العلامات الأقل حجماً من شأنها أن توفر، بناءً على ذلك، قدراً أكبر من المرونة في الامتثال لتلك الشروط. وبالرغم من ذلك، لم يلق الاقتراح إلا قليلاً من التأييد. وأفيد بأن العلامات وسيلة أولية للتواصل؛ ومن ثم فإن تقليص حجمها من شأنه أن يخفض من مستوى معايير السلامة. وقيل أن هناك مبررات فيما يخص الطرود التي تحتوي على مواد معدية، حيث لا يسمح سوى بنقل طرود صغيرة من هذا النوع عن طريق الجو. أما البند الخاص باسطوانات الغاز فهو يستند إلى أحد معايير المنظمة الدولية لتوحيد المقاييس حيث ارتأى عدد كبير من أعضاء فريق الخبراء ضرورة إعادة النظر فيه.

٣-٣-٦-٢ ولم تتم الموافقة على الاقتراح.

٤-٦-٢ وضع علامات الكميات المحدودة على الأغلفة الحاوية (DGP/23-WP/93)

١-٤-٦-٢ أدرج في الفقرة ٤-٥-٣ من الجزء ٣ الشرط القاضي بتكرار علامة الكمية المحدودة على الوجه الخارجي لغلاف حاوي بداخله بضائع خطيرة بكميات محدودة. واقترح بأن توضع كذلك العلامات التي تستوجبها شروط الغلاف الحاوي في الجزء ٥، وذلك لأن الشاحنين وغيرهم ممن يتبعون التعليمات لا يشيرون، بصفة عامة، إلى هذا الجزء سوى عندما ينظرون في تطبيق الشروط الخاصة بوضع العلامات على الطرود والأغلفة الحاوية. وبناءً على ذلك، اقترح تعديل الفقرة ٢-٤-١٠ من الجزء ٢.

٢-٤-٦-٢ واتفق على التعديل رهناً بتقيد صياغي طفيف.

٧-٢ تعديلات على الجزء ٦ من التعليمات الفنية: اصطلاحات التغليف والتوسيم والشروط والاختبارات

١-٧-٢ مشروع التعديلات على التعليمات الفنية كي

تتواءم مع توصيات الأمم المتحدة — الجزء ٦
(DGP/23-WP/9)

١-١-٧-٢ استعرض الاجتماع التعديلات على الجزء ٦ من التعليمات الفنية بحيث تعكس القرارات الصادرة عن لجنة الخبراء التابعة للأمم المتحدة في دورتها الخامسة (جنيف، ١٠ ديسمبر ٢٠١٠). كما عكست التعديلات المقترحات التي اتفق عليها الفريقان العاملان اللذين اجتمعا في عام ٢٠١٠ و٢٠١١.

٢-١-٧-٢ واتفق على التعديلات، رهناً بتعديل صياغي في الجدول ٦-٢ وإضافة صافي الكتلة القصوى بالنسبة للفلزات غير الفولاذ أو الألومنيوم.

٨-٢ تعديلات على الجزء ٧ من التعليمات الفنية: مسؤوليات المشغل

١-٨-٢ مشروع تعديلات على التعليمات الفنية كي تتواءم مع توصيات الأمم المتحدة — الجزء ٧ (DGP/23-WP/10)

١-١-٨-٢ استعرض الاجتماع التعديلات على الجزء ٧ من التعليمات الفنية كي تعكس القرارات الصادرة عن لجنة الخبراء التابعة للأمم المتحدة في دورتها الخامسة (جنيف، ١٠ ديسمبر ٢٠١٠). وتعكس التعديلات أيضاً المقترحات التي اتفق عليها الفريقان العاملان اللذين اجتمعا في عام ٢٠١٠ و ٢٠١١.

٢-١-٨-٢ ولم يستمع بعض أعضاء فريق الخبراء استخدام عبارة "التخزين" (Storage) في إطار الشروط الجديدة الخاصة ببروز العلامات والأوسام في الفقرة ٢-٦ من الجزء ٧. وأفادوا بأن استخدام تلك العبارة سي طرح صعوبات في عدد كبير من الدول نظراً لاستعمالها في تشريعات لا تتصل بالنقل الجوي. وحظي بالتأييد لتتقيد للاشتراك بقضي بإزالة مظهر التنازع هذا. واقترح إعادة النظر في عنوان الفصل الثاني في وقت لاحق، مع الملاحظة بأن عبارة تخزين (Storage) تشكل جزءاً منه.

٢-٨-٢ مسؤوليات المشغل فيما يخص القبول (DGP/23-WP/24) وتعريف عبارتي البضائع الخطرة "غير المعلن عنها" (undeclared) و"المعلن عنها بشكل غير سليم" (misdeclared) (DGP/23-WP/46) والبضائع الخطرة "غير المعلن عنها" و"المعلن عنها بشكل غير سليم" (DGP/23-WP/50)

١-٢-٨-٢ اتفق الفريق العامل في اجتماع عام ٢٠١١ على اقتراح بتعريف العبارتين "غير المعلن عنها" و"المعلن عنها" على نحو غير سليم". وارتئي أن إدراج التعريفين سيكون مفيداً نظراً لوجود إحالات عديدة إلى المصطلحين في التعليمات الفنية بالرغم من أن معناه لم يوضح قط. وقيل أن المصطلحين عرفا إما في حالة عدم وجود مستند نقل البضائع الخطرة (غير المعلن عنها) أو في حالة وجود مستند نقل للبضائع الخطرة أعد بطريقة غير سليمة (المعلن عنها بشكل غير سليم). ويشمل تعريف "المعلن عنها بشكل غير سليم" أيضاً البضائع الخطرة التي اعتبر أثناء الفحص لأغراض القبول أنها لا تمثل للتعليمات الفنية. وأدرج التعريفان في ورقة العمل (DGP/23-WP/4).

٢-٢-٨-٢ بالرغم من أن الفريق العامل اتفق على التعريفات في اجتماع عام ٢٠١١، ارتأى البعض من أعضائه أن التوثيق أو عدمه لا يشكل أساساً كافياً لتحديد الشروط بشكل كامل وأن إضافة التعاريف إلى التعليمات الفنية قد يتعارض مع الممارسات الموصى بها للمشغلين في الفقرة ١-١-٢ من الجزء ٧. وبالرغم من أن أولئك الأعضاء اعتبروا أن التعاريف ليست ضرورية، اقترحت تعاريف جديدة ارتئي أنها لن تتعارض مع النهج التنظيمية السائدة في بعض الدول، وتتضمن اشارات أخرى بإمكانية احتواء الارشادات بضعاف خطررة غير مصرح بها أو مصرح بها بشكل غير سليم.

٣-٢-٨-٢ وكان لدى الأمانة العامة رأي مفاده أن إدراج تلك التعاريف في الجزء ١ من التعليمات الفنية قد يؤدي إلى أثر تبعي يتمثل في وجود شروط متناقضة في التعليمات ولا سيما فيما يتصل بالبضائع الخطرة غير "المعلن عنها". فمن جهة أوصي في الفقرة ١ من الجزء ٧ من التعليمات الفنية بأن يسعى المشغلون إلى "الحصول على معلومات من الشاحنين بشأن محتويات كل مكونات الشحنة حيثما تكون هناك شكوك بشأن احتواءها بضعاف خطررة"، ومن جهة أخرى، يجوز إعفاء المشغلين من هذا الشرط استناداً إلى هذا التعريف. وإذ أشير إلى أن القصد الأصلي من هذا الاقتراح هو توفير الإرشاد للمشغلين بشأن أحكام الإبلاغ، أوحى بأنه يمكن إدراج تلك التعاريف في شكل ملاحظة في الفقرة ٤-٥ من الجزء ٧، وإن كان يفضل حذفها. وأفيد أنه ينبغي، في حالة حذف التعاريف، نقل الملاحظة التي اتفق عليها مؤقتاً في اجتماع عام ٢٠١١

للفريق العامل، إلى الفقرة ٤-٥ من الجزء ٧. وتعالج هذه الملاحظة شواغل بعض الأعضاء تتعلق بالحالات التي ينبغي ألا يعتبر فيها الإبلاغ حاسماً، من قبيل الحالة التي تعاد فيها الإرسالية إلى الشاحن لاتخاذ بعض الإجراءات التقييمية البسيطة.

٢-٨-٢-٤ وكان لبعض الأعضاء الآخرين رأي مخالف حيث أكدوا على أن التعاريف لا تتعارض بأي حال من الأحوال مع الممارسة المستصوبة المنصوص عليها في الفقرة ١-١-٢ من الجزء ٧ والتي تقضي بأن يسعى المشغل إلى الحصول على توكيد من الشاحن بأن الطرود المشكوك فيها لا تحتوي على بضائع خطيرة. وأعرب عن رأي مفاده أنه سيكون من المجحف في حق المشغل الإيحاء بأنه تم الإعلان له عن بضائع خطيرة في طرد لا يحمل سوى رقم الأمم المتحدة، وربما بحروف من الحجم الصغير، وعرض نقله من ضمن عدد كبير من الطرود الأخرى تتضمن بضائع خطيرة. ورأى أعضاء آخرون أن شروط التدريب المنصوص عليها في الفقرة ١-١-١ من الجزء ٧ والفقرة ١ من الجزء ١ (وتحديداً المهام الوارد ذكرها في الجدولين ٤-١ و ٥-١) تعني ضمناً أن من المسؤولية التي يتحملها المشغل قد تقل إذا ما أبقى على هذه التعاريف.

٢-٨-٢-٥ وأيدت الأغلبية حذف التعاريف. واتفق على الاقتراح.

٢-٨-٢-٦ وتم سحب ورقة العمل (DGP/23-WP/46).

٢-٨-٢-٣ اقتراح الاشتراط على المنظمات أو المؤسسات التي تقدم خدمات "الأمته الزائدة" الحصول على توكيدات بشأن البضائع الخطرة غير المسموح بها ضمن أمته المسافرين (DGP/23-WP/40)

٢-٨-٢-٣-١ اقترح شرط جديد في الفقرة ٥-٢ من الجزء ٧ يفرض على المشغل أو أي جهة أخرى تتصرف نيابة عنه، أن يحصل على تأكيد من الشخص أو المؤسسة التي تعرض خدمات الأمته الزائدة بأن هذه الأمته لا تحتوي على بضائع خطيرة غير مسموح بها عندما يقبل الأمته الزائدة المسجلة كبضائع.

٢-٨-٢-٣-٢ وحظي القصد من الاقتراح بالتأييد. وارتأى بعض الأعضاء بأنه سيكون من الصعب، أو من المستحيل تطبيقه بصيغته المكتوبة، حيث إن الركاب لن يكونوا بالضرورة على اتصال مباشر بالمشغل الذي يقبل الأمته الزائدة. واعتبر أنه سيكون من الأنسب إصدار هذا البند في شكل توصية. واقترح حذف الاشارة إلى المشغل ووكيل المناولة لأنها مشمولة في الفقرة ٥-١-٢ من الجزء ٧. وتم الاتفاق على التعديل بصيغته المعدلة.

٢-٨-٢-٤ الإبلاغ عن وقائع عدم الامتثال المتصلة

بالبضائع الخطرة (DGP/23-WP/47)

٢-٨-٢-٤-١ اقترح الفريق العامل في اجتماع عام ٢٠١١ توسيع نطاق شروط الإبلاغ الواردة في الفقرة ٤-٤ من الجزء ٧ من التعليمات الفنية بحيث تغطي الوقائع المرتبطة بنقل البضائع الخطرة دون تحميلها على النحو السليم (مثلاً توزيعها، والفصل بينها وتأمينها بصورة غير ملائمة) أو دون إعطاء معلومات مكتوبة لقائد الطائرة. واتفق على الاقتراح مبدئياً، بالرغم من طرح مسألتين تتطلبان مزيداً من النظر، ألا وهما إضافة التقارير عن عدم الامتثال إلى أحكام الفقرة ٣ من الجزء ٧ (التفتيش والتطهير) والجهة التي ينبغي رفع التقارير إليها.

٢-٨-٢-٤-٢ وقدم اقتراح جديد إلى الاجتماع يعالج تلك المسألتين. فبخصوص الجهة التي ينبغي رفع التقارير إليها، اقترح بأن تلك التقارير ستنهم دولة المشغل. وفيما يتعلق بالبضائع الخطرة التي لم تشحن على نحو سليم أو لم يتم إشعار قائد الطائرة بها، أوحى بأن هاتين المسألتين تهمان في المقام الأول دولة المنشأ لأن أي إجراء تقويمي يتعين اتخاذه في تلك الدولة. وأفيد أن دولة المقصد هي الأكثر قدرة على معالجة الوقائع المتصلة بعدم الامتثال لأحكام الفقرة ٣ من الجزء ٧.

٢-٨-٤-٣ وكان هناك تأييد للاقتراح بالرغم من أن بعض الأعضاء أثاروا تساؤلات عن كيفية تطبيقه من الناحية العملية. ولوحظ أن المشغلين سيكونون راغبين أكثر في الإبلاغ لو كان هناك نظام غير عقابي. وبدون ذلك، فقد يتكأ المشغلون في القيام بإجراءات التدقيق الذاتي. وتباينت الآراء حول ما إذا كان من الضروري إبلاغ دولة المنشأ. وارتأى معظم أعضاء الفريق أن ذلك سيكون مفيداً من حيث كونه سينذر الدول بأنه يتعين إخضاع بعض المشغلين للتفتيش.

٢-٨-٤-٤ وعُرض على فريق الخبراء خياران بديلان ما دام التباين هيكلياً. واتفق على البديل الثاني، رهناً بسحب شرط الإبلاغ عن حالات عدم الامتثال لأحكام الفقرة ٣ من الجزء ٧ (التفتيش والتلوّث) حيث اعتبر مبالغاً فيه.

٢-٨-٥ مناولة وتحميل الحاويات المتوسطة

للمشحنات السائبة (DGP/23-WP/56)

٢-٨-٥-١ لوحظ أن هناك شروط توسيم منفصلة تنطبق على الحاويات المتوسطة للشحنات السائبة القابلة للتكديس وتلك التي لا تقبل التكديس (الفقرة ٢-٤-٣ من الجزء ٦). وقيل إنه ليست هناك شروط مقابلة للمشغلين فيما يتصل بمناولة وتحميل تلك الحاويات. ومن ثم نوقش اقتراح بإضافة شروط من هذا القبيل إلى الفقرة ٢ من الجزء ٧.

٢-٨-٥-٢ واتفق على التعديل، رهناً بإضافة عبارة "إن وجدت" (if present) في نهاية الجملة للنص على الحالات التي تكون فيها العلامات غير موجودة.

٢-٨-٦ مكان الجدول ٧-١: الفصل بين الطرود (DGP/23-WP/61)

٢-٨-٦-١ اتفق على الاقتراح القاضي بنقل الجدول ٧-١ (الفصل بين الطرود) من الفقرة ١ من الجزء ٧ (إجراءات القبول) إلى الجزء ٢ (الخزن والتحميل) وإدراجه بين الفقرتين ٢-٢-١ و ٢-٢-٢. وقدم رأي يقول بأن الجدول يستخدم في معظم الحالات لدى تأمين عدم خزن أو تحميل الطرود التي لا يمكن الجمع بينها بالقرب من بعضها البعض، بما يضفي مزيداً من المنطق على الموضوع الجديد لذلك الجدول ويبسّر تحديد مكانه بسهولة.

٢-٨-٧ الاحتفاظ بسجل تطهير الطائرة (DGP/23-WP/84)

٢-٨-٧-١ بالرغم من أن الفقرة ٣-١-٣ من الجزء ٧ من التعليمات الفنية يفرض على المشغلين تطهير الطائرة من أي ملوثات خطيرة، ليس هناك شرط لتوثيق ذلك التطهير. وبناء على ذلك، نظر الاجتماع في اقتراح يفرض على المشغلين الاحتفاظ بسجل لإجراءات إزالة الملوثات الخطرة من على متن الطائرة.

٢-٨-٧-٢ وبالرغم من التأييد الذي حظي به القصد من الاقتراح، ارتأى بعض أعضاء الفريق أنه من الصعب تطبيقه بشكله الإلزامي. واعتبر آخرون أن إعطاء الحكم صفة التوصية قد لا يعالج المشكلة. ولوحظ أنه لا يتم في الوقت الراهن سوى تسجيل حوادث الانسكاب والتسرّب التي تؤثر على صلاحية الطيران.

٢-٨-٧-٣ وتم تشجيع أعضاء الفريق على مناقشة كيفية تطبيق ذلك الشرط من الناحية العملية في دولهم، خلال فترة السنتين المقبلة. وستتم إعادة النظر في الاقتراح بالرغم من استحالة الاتفاق عليه حالياً.

٨-٨-٢ إخطار السلطات المختصة (DGP/23-WP/94)

١-٨-٨-٢ يفرض في الفقرة ١-٢-١-٤ ب) من الجزء ٥ من التعليمات الفنية على الشاحنين إخطار السلطات المختصة بشحن إرساليات من المواد ذات النشاط الإشعاعي الكبير. والجهات التي يتعين إخطارها هي السلطات المختصة في بلد منشأ الإرسالية وفي كل بلد تنقل الإرسالية عبره أو إليه.

٢-٨-٨-٢ ولدى العديد من الدول شروط مختلفة تقتضي من المشغلين الحصول على موافقة و/أو إخطار سلطات الطيران المدني بنقل مواد تنسم بنشاط إشعاعي كبير جواً من أراضيها وإليها وعبرها وفوقها. وجرت مؤخراً مناقشات في أوروبا بين الوكالة الأوروبية للسلامة الجوية وسلطات الطيران المدني في الدول الأوروبية بشأن الاختلافات بين الدول وأثرها على المشغلين الذين يتوجب عليهم العمل بموجب تنظيمات العمليات الصادرة عن الاتحاد الأوروبي. ولا يسمح بأن تكون اختلافات الدول التي تنشرها سلطة الطيران المدني في دولة تخضع لتنظيمات الاتحاد الأوروبي أكثر تقييداً من تنظيمات الاتحاد الأوروبي أو من التعليمات الفنية. وسيكون من نتائج ذلك سحب بعض التغييرات مما قد يؤدي إلى زوال بعض ما تتضمنه من شروط إضافية ما لم تدرج في التعليمات الفنية.

٣-٨-٨-٢ وقدم اقتراح يقتضي من المشغل إخطار السلطات المختصة في دول المنشأ والمقصد والعبور والتحقيق العابر عندما يتم نقل شحنات تحتوي على مواد تنسم بنشاط إشعاعي كبير. وسينطبق شرط الإخطار على ذات الأنواع من شحنات المواد الإشعاعية التي يتعين على الشاحنين حالياً إخطار السلطات المختصة بها.

٤-٨-٨-٢ وقدم أيضاً تعديل يقتضي من الشاحن اتخاذ ترتيبات مسبقة مع المشغل بشأن شحنات من هذا القبيل، مع التسليم بأن ذلك ضروري كيما يمثل المشغل لأحكام الإخطار.

٥-٨-٨-٢ وحظي الاقتراح بقدر ضئيل من التأييد، إذ من شأنه أن يُحمّل المشغل عبئاً كبيراً غير ضروري ويفضي إلى تعقيدات قد تؤدي إلى زيادة رفض الشحنات. وقيل إن الدول المعنية قد تكون أخطرت من طرف الشاحن.

٦-٨-٨-٢ ولم يتم الاتفاق على التعديل.

٩-٨-٢ توضيح الأحكام المتعلقة بمنافذ التحميل بالنسبة للبضائع الخطرة التي لا

يسمح بها سوى على متن طائرات البضائع (DGP/23-WP/98)

١-٩-٨-٢ تؤدي الإعفاءات المنصوص عليها في أحكام النقل على طائرات البضائع، في الفقرة ٢-٤-١-٢ من الجزء ٧ إلى الخلط، حيث ليس من الواضح ما إذا كانت أنواع المخاطر تتعلق بالمخاطر الثانوية أو المخاطر الرئيسية فحسب. ولوحظ أن القصد الأساسي من الإعفاء إبعاد بعض الأنواع من البضائع الخطرة من أفراد الطاقم إذا كان من شأن تعريضهم لتلك البضائع أن يلحق بهم الضرر. وأعرب فريق الخبراء عن امتنانه لمقدم ذلك الاقتراح، حيث اعتبر أن التوضيح ضروري. وتم الاتفاق على الاقتراح بعد تنقيحه.

١٠-٨-٢ التعرف على البضائع الخطرة غير المعلن عنها (DGP/23-WP/99)

١-١٠-٨-٢ كان فريق الخبراء قد ناقش في اجتماعه الثاني والعشرين المخاطر المقترنة بالبضائع الخطرة غير المعلن عنها، كما ناقشها الفريقان العاملان اللذان اجتمعا في عام ٢٠١٠ و ٢٠١١. ولوحظ آنذاك أن الغرض من أحكام الفقرة ٦ من

الجزء ٧ هو الاستعانة بها في التعرف على البضائع الخطرة غير المعلن عنها. وجرى خلال الاجتماعات السابقة محاولات لإدراج نص في التعليمات الفنية يشجع الشاحنين أو المشغلين على التأكد من أن الإرساليات لا تتضمن أيًا من المواد المذكورة في القائمة الواردة في الفقرة ٦ من الجزء ٧. وإذ أُشير إلى أن تلك القائمة إرشادية، اعترف بصعوبة إيجاد طريقة للإحالة إلى القائمة دون إضافة شرط جديد للشاحنين والمشغلين. وارتقت بصفة عامة أن الشروط من هذا القبيل غير مناسبة للشاحنين ممن لا ينقلون بضائع خطيرة ومن شأنها أن تفرض عبئاً لا يُحتمل على المشغلين.

٢-١٠-٨-٢-٢ وقدم إلى الاجتماع الثالث والعشرين لفريق الخبراء اقتراح جديد هو إضافة ملاحظة في الفقرة ١-١-٢ من الجزء ٧. وتوصي الملاحظة بأن يقوم موظفو المشغل الذين يتولون قبول البضائع بفحص مستندات الشحن على ضوء الوصف العام الوارد في قائمة البضائع وبأن يطلبوا، عند الاشتباه في أي شيء، أدلة مستندية من الشاحن لإثبات أن الشحنة لا تتضمن أي بضائع خطيرة.

٢-١٠-٨-٣-٢ وأيد فريق الخبراء الاقتراح مُقرّاً أن النص الجديد ليس ملزماً واعترف بجدوى الإرشادات الجديدة التي يوفّرها.

٢-١٠-٨-٤-٢ واتفق على التعديل رهناً بتنقيح صياغي توخياً لمزيد من الوضوح.

٩-٢ تعديلات على الجزء ٨ من التعليمات الفنية: أحكام عامة

١-٩-٢ مشروع تعديلات على التعليمات الفنية كي تتواءم مع توصيات الأمم

المتحدة - الجزء ٨ (DGP/23-WP/11)

١-١-٩-٢-٢ استعرض الاجتماع التعديلات على الجزء ٨ من التعليمات الفنية كي تعكس القرارات الصادرة عن لجنة الخبراء التابعة للأمم المتحدة في دورتها الخامسة (جنيف، ١٠ ديسمبر ٢٠١٠). كما تعكس التعديلات المقترحات التي وافق عليها الفريقان العاملان اللذين اجتمعا في عام ٢٠١٠ و٢٠١١.

٢-١-٩-٢-٢ وقدمت التعديلات في شكل جدول جديد كان قد عرض ونوقش في اجتماعي الفريقين العاملين. ويقدم الهيكل الجديد الأحكام الخاصة بالركاب وأفراد الطاقم في شكل أوضح وأيسر على المستخدمين. وأضيف إلى الجدول عمود جديد يشير إلى البضائع الخطرة المسموح للشخص بحملها معه، وطلب من فريق الخبراء أن يستعرض القيم الواردة في ذلك العمود بالنسبة لكل واحد من الأحكام. واقترح بأن ينظر في تعريف "يحملها معه" (on one's person)، على أن يعود الفريق إلى تلك العبارة في وقت لاحق.

٢-١-٩-٣-٢ ولوحظ بأنه سبق اعتماد تعديلات أخرى على الجزء ٨ في الاجتماع الثالث والعشرين ولكن لم تقدم في شكل جدول جديد. وقالت الأمانة العامة أنها ستكفل إدراج جميع التعديلات في الشكل الجديد.

٢-١-٩-٤-٢ وتم الإبقاء سهواً على الأقواس المعقوفة حول "سبيكة الليثيوم" في الفقرة ١-١-٢ (د) من الجزء ٨ من طبعة ٢٠١١-٢٠١٢. واتفق على رفع الأقواس وحذف النص، على أساس أن سبائك الليثيوم هي جزء من فلز الليثيوم.

٢-١-٩-٥-٢ ولوحظ أن الإشارات إلى معايير اللجنة الكهربائية الفنية الدولية الخاصة بخلايا الوقود سوف تشمل "التعديل ١" بين قوسين معقوفين في انتظار نتائج مداوات الدول الأعضاء في اللجنة.

٢-٩-٢ الأجهزة التي تشتغل ببطاريات محصنة ضد التسرب (DGP/23-WP/16)

١-٢-٩-٢ أوحى بأن البند الخاص A67 يعني ضمناً، بصياغته الحالية، أنه يسمح للمسافرين بحمل بطاريات محصنة ضد التسرب إذا كانت تفي بشروط ذلك البند. بيد أن التعديل الراهن لذلك البند الخاص، المقترح في ورقة العمل WP/54-DGP/23، من شأنه أن يوضح أنه ينطبق على البضائع وحدها. وبناء على ذلك، عرض على فريق الخبراء اقتراح يقضي بإضافة بند إلى الجزء ٨ يتعلق بالبطاريات المحصنة ضد التسرب.

٢-٢-٩-٢ ولقي الاقتراح التأييد من حيث المبدأ، وإن قدمت عدة تعليقات:

(أ) اقترح بأن تعدل صياغة الشرط بحيث تحمي من الماس الكهربائي والتشغيل غير المقصود، وذلك لضمان الاتساق مع أحكام أخرى في التعليمات الفنية؛

(ب) تم التساؤل عما إذا كان من المناسب الإشارة إلى واط/ساعة حيث لا توضع دائماً علامات بذلك؛

(ج) ينبغي تناول البند الخاص بالبطاريات الاحتياطية عبر الإحالة إلى البند الخاص A67؛

(د) ينبغي مراعاة ما إذا كانت الأجهزة للاستعمال الشخصي أم لا.

٣-٢-٩-٢ اتفق على تعديل منقح يعالج هذه الشواغل، رهناً بتعديلات صياغية ستدرجها الأمانة العامة.

٣-٩-٢ المواد المولدة للحرارة (DGP/23-WP/55)

١-٣-٩-٢ اقترح تعديل على البند الخاص بحمل المسافرين معدات تشتغل ببطاريات تولد حرارة شديدة. ولوحظ أن أحد الشروط التي يتضمنها هذا البند يقضي بتغليف المكون المولد للحرارة أو البطارية بشكل منفصل بغية تفادي التشغيل أثناء النقل. وأوصي بأن استخدام عبارة "تغليف... بشكل منفصل" (packed separately) قد يفسر على أنه يعني تغليف ووضع المادة في كيس منفصل، كما أوحى بأن ذلك من شأنه أن يلحق الضرر ببعض المعدات مثل مصابيح الغوص الباهظة الثمن. وقيل إن هذا النوع من المعدات ينقل اعتيادياً في أكياس صنعت خصيصاً لهذا الغرض وتتيح فصل البطارية عن الجهاز وتحصينها ضد الماس الكهربائي وحملها في نفس الكيس مع المكونات الأخرى للجهاز. وأفيد بأن هذه الممارسة تكفل السلامة وينبغي توضيح البند لتفادي اللبس.

٢-٣-٩-٢ واتفق على التعديل رهناً بإضافة أمثلة عن كيفية تفادي الماس الكهربائي. وستقوم الأمانة العامة باقتباس تلك الأمثلة من الفقرة ١-١-٢ (ج).

٤-٩-٢ الكراسي المتنقلة وغير ذلك من المعينات على الحركة التي تشتغل

بالبطاريات (DGP/23-WP/57)

١-٤-٩-٢ قدم تعديل على الأحكام الخاصة بالمسافرين الذين يستخدمون كراسي متنقلة وغيرها من معينات الحركة بغرض معالجة ثلاث مسائل. أولها معالجة مشكلة الكراسي المتنقلة التي يعثر عليها مشغلة بعد الرحلة. وأوحى بأنه قد لا يتسنى ضمان تفادي التشغيل ما لم تحمل الأجهزة داخل وحدة تحميل أو في مستودع ليست به أمثلة أو بضائع أخرى، وهو أمر صعب إن لم يكن مستحيلاً على المشغلين. واقترحت شروط جديدة لمعالجة هذه المسألة. وثانيها معالجة مسألة انعدام

الإشارة إلى المعينات على الحركة التي تشتغل ببطاريات هيدريد فلز النيكل، بالرغم من أن البند الخاص A123 يتناول شروط نقلها. وقد أضيفت إلى الاقتراح إشارة إلى البند الخاص A123. أما المسألة الثالثة فتتناول الكراسي المتنقلة وغيرها من المعينات على الحركة المصممة خصيصاً كي تزال منها البطاريات وتنقل في كيس. وأوصي بأن هذه البطاريات ستؤمّن أكثر عندما تنقل داخل مقصورة الركاب حيث سيُتيح ذلك إمكانية تدخل أفراد الطاقم في حالة حدوث ماس كهربائي أو نشوب حريق. وأضيف إلى الاقتراح شرط ينص على ذلك.

٢-٤-٩-٢ ونُفح التعديل ونوقش بالاقتراح مع الاقتراحات الواردة في ورقة العمل DGP/23-WP/75 (انظر الفقرة ٨-١-٥) وورقة العمل DGP/23-WP/80 (انظر الفقرة ٩-١-٥). واتفق على التعديل رهنا ببعض التعديلات الصياغية وتوضيح ضرورة إزالة البطاريات من طرف المستخدم إذا كان ذلك ممكناً.

٥-٩-٢ **حقيبة ظهر للإيقاظ من الانهيارات الثلجية (DGP/23-WP/62)**

١-٥-٩-٢ اقترح تعديل على الحكم المتعلق بحقائب الظهر للإيقاظ من الانهيارات الثلجية بغرض استيعاب التطورات التكنولوجية في هذا المجال. وأفيد بأن المخدات الهوائية تستخدم منظومة ميكانيكية تقوم على كابلات ونوايض تنطوي على مخاطر أقل أثناء النقل مقارنة مع أضرار التشغيل الحرارية التي تستخدم عادة. وقيل إن التعديل يسمح بنقل حقائب الظهر للإيقاظ من الانهيارات الثلجية سواء كانت مجهزة بأضرار تشغيل حرارية أم لا. وشمل التعديل أيضاً الاسطوانات الأكبر سعة التي تصنع حالياً، من خلال تحديد كمية الطاقة عوض تحديد السعة المائبة.

٢-٥-٩-٢ وأثيرت تساؤلات حول مدى ضرورة تحديد كمية الطاقة؛ وبما أن الحقيبة تحمل على الظهر، فإن التصميم يستبعد الاسطوانات الضخمة. واتفق على التعديل المنقح.

٦-٩-٢ **قداحات اللهب الأزرق (DGP/23-WP/79)**

١-٦-٩-٢ أبلغ الاجتماع بوقوع حدث في طائرة سببه قداحة من نوع اللهب الأزرق تم تشغيلها عن طريق الخطأ فاشتعلت. كانت القداحة قد سقطت في ثنايا كرسي الطائرة عند نقطة الاتكاء؛ ولما أعيد الكرسي إلى وضعه الأفقي؛ ضغطت حمولة الاتكاء على زر الإشعال في القداحة فأطلقت لها أزرق أحرق غطاء الكرسي. وبلغ ارتفاع اللهب حوالي ١,٥ م. ولحسن الحظ لم يُصب أحد.

٢-٦-٩-٢ وكان فريق الخبراء قد ناقش، في اجتماعه الثاني والعشرين، حظر قداحات اللهب الأزرق. وأعرب آنذاك عن انشغال مفاده أن يصعب على الركاب أن يميزوا بين ما يسمى "بقداحات اللهب الأزرق" والقداحات العادية. وارتأى أعضاء آخرون أن هناك أدوات أخرى مماثلة يمكن إدراجها ضمن المواد التي يمنع حملها على الركاب وأفراد الطاقم وأن هناك، ربما، حاجة إلى تكريس مزيد من الوقت لها.

٣-٦-٩-٢ وقدم للاجتماع اقتراح جديد يمنع نقل "قداحات اللهب الأزرق مثل القداحات النفائثة وقداحات التوربو (Jet and turbo lighters) "جوا. وكان هناك تأييد للاقتراح وإن أثيرت بعض الشواغل:

(أ) ينبغي أن يُفرض الحظر في إطار الحكم الأساسي الوارد في الفقرة ١-١-٢(س) من الجزء ٨ وليس في ملاحظة. وبالرغم من وجود ملاحظة تتعلق بأعواد الثقاب "التي يمكن قدها في أي مكان" (strike anywhere) فإنها توضح ما أُشير إليه أصلاً في الجدول ٣-١ بالنسبة لأعواد الثقاب التي يمكن قدها في أي مكان UN1331.

(ب) قداحات اللهب الأزرق ليس مصطلحاً شائعاً وينبغي تعريفه في مدخل جديد في المسرد.

وتمت معالجة هذه المسائل في اقتراح منقح. واتفق على التعديل، رهنا ببعض التعديلات الصياغية التي ستتولى الأمانة العامة إدخالها.

٧-٩-٢ تعديلات على مرفقات التعليمات الفنية: مبادئ عامة

٨-٩-٢ مشروع التعديلات على المرفق ٢ من التعليمات الفنية (DGP/23-WP12)

١-٨-٩-٢ استعرض الاجتماع التعديلات على المرفق ٢ بالتعليمات الفنية (المسرد) كي يعكس الاقتراحات التي وافق عليها الفريقان العاملان في عام ٢٠١٠ و٢٠١١.

٢-٨-٩-٢ واتفق على التعديلات رهنا بتعديل صياغي.

١٠-٢ التوصيات

١-١٠-٢ أصدر الاجتماع التوصية التالية على جزء المناقشات الواردة أعلاه:

التوصية ١-٢ تعديل على التعليمات الفنية للنقل الآمن للبضائع الخطرة
عن طريق الجو (Doc 9284)

تُعدّل التعليمات الفنية على النحو المشار إليه في مرفق التقرير بشأن هذا
البند من جدول الأعمال.

APPENDIX
PROPOSED AMENDMENTS TO THE TECHNICAL INSTRUCTIONS
FOREWORD

...

See paragraph 3.2.2 of DGP/23-WP/2:

USE OF THE TECHNICAL INSTRUCTIONS

The Technical Instructions are divided into eight Parts and supplemented by several attachments, with each Part and Attachment divided into Chapters and each Chapter divided into paragraphs and subparagraphs.

Within each Chapter, the Chapter number is incorporated into all of the paragraph numbers; thus, in Chapter 3, paragraph 2 carries the number "3.2". When referring to a paragraph, it is necessary to identify the appropriate Part or Attachment; if the above example were located in Part 2, the reference to it would be shown as "2;3.2" (that is, Part 2; Chapter 3, paragraph 3.2). If the above example were located in Attachment 3, the reference to it would be shown as "A3;3.2" (that is, Attachment 3; Chapter 3, paragraph 3.2).

Figures and Tables are numbered sequentially within the Part or Attachment in which they appear. Thus the second figure appearing in Part 4 is identified as "Figure 4-2" and, the first table appearing in Part 3 is identified as "Table 3-1" and the first table appearing in the attachments is identified as "Table A-1" and it appears in Attachment 3.

...

See paragraph 3.2.12 of DGP/23-WP/3:

ABBREVIATIONS AND SYMBOLS

The abbreviations and symbols in the following table are used throughout the Instructions, or in the particular sections indicated, and have the meanings shown below.

<i>Abbreviation or symbol</i>	<i>Meaning</i>
-----------------------------------	----------------

...

G	gross mass as prepared for transport (as used in columns 11 <u>and</u> 13 of Table 3-1)
---	---

...

Part 1

GENERAL

Chapter 1

SCOPE AND APPLICABILITY

...

See paragraph 2.2.1 of this report:

Note.— Recommendations on Tests and Criteria, which are incorporated by reference into certain provisions of these Instructions, are published as a separate Manual (United Nations Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria) (ST/SG/AC.10/11/Rev.5 [and Amend.1](#)), the contents of which are:

Part I. Classification procedures, test methods and criteria relating to explosives of Class 1;

Part II. Classification procedures, test methods and criteria relating to self-reactive substances of Division 4.1 and organic peroxides of Division 5.2; and

Part III. Classification procedures, test methods and criteria relating to substances or articles of Class 2, Class 3, Class 4, Division 5.1, Class 8 and Class 9.

Appendices. Information common to a number of different types of tests and national contacts for test details.

The amendments to the general applicability of approvals and exemptions Standards in Annex 18 which were agreed at DGP/22 were subsequently modified. Amendments to align the text in the Instructions with Amendment 10 to Annex 18 are included in this chapter.

See paragraph 5.3.1 of this report:

1.1 GENERAL APPLICABILITY

1.1.1 These *Technical Instructions for the Safe Transport of Dangerous Goods by Air*, referred to herein as the “Instructions”, prescribe the detailed requirements applicable to the international civil transport of dangerous goods by air [by any aircraft \(including both internal and external carriage\)](#). Any addenda to this edition of the ICAO *Technical Instructions for the Safe Transport of Dangerous Goods by Air* issued by ICAO constitute part of these Instructions.

See paragraph 2.2.1 of this report:

1.1.2 Where specifically provided for in these Instructions, the ~~State of Origin and the State of the Operator~~ [States concerned](#) may grant an approval:

~~— a) to transport dangerous goods forbidden on passenger and/or cargo aircraft where these Instructions state that such goods may be carried under an approval; or~~

~~— b) for other purposes as specified in these Instructions;~~

provided that in such instances an overall level of safety in transport which is ~~at least~~ equivalent to the level of safety provided for in these Instructions is achieved.

1.1.3 In instances:

~~a) of extreme urgency; or~~

~~b) when other forms of transport are inappropriate; or~~

c) when full compliance with the prescribed requirements is contrary to public interest,

the States concerned may grant an exemption from the provisions of the Instructions provided that in such instances ~~an every effort is made to achieve an~~ overall level of safety in transport which is ~~at least~~ equivalent to the level of safety provided for in these Instructions ~~is achieved. For the purposes of exemptions, "States concerned" are the States of Origin, Operator, transit, overflight and destination.~~

1.1.4 For the State of overflight, if none of the criteria for granting an exemption are relevant, an exemption may be granted based solely on whether it is believed that an equivalent level of safety in air transport has been achieved.

Note 1.— For the purpose of approvals, "States concerned" are the States of Origin and the Operator, unless otherwise specified in these Instructions.

Note 2.— For the purpose of exemptions, "States concerned" are the States of Origin, Operator, Transit, Overflight and Destination.

Note 3.— Guidance for the processing of exemptions, including examples of extreme urgency, may be found in the Supplement to the Technical Instructions (Part S-1;1.2 and 1.3).

Note 4.— Refer to 1;2.1 for dangerous goods forbidden for transport by air under any circumstance.

See paragraph 5.3.1 of this report:

Note 5.— Due to the differences in the type of operations carried out by helicopters compared with aeroplanes, some additional considerations need to be made when dangerous goods are carried by helicopter, as described in 7;7.

1.1.4.5 General exceptions

1.1.4.5.1 Except for 7;4.2, these Instructions do not apply to dangerous goods carried ~~on~~ by an aircraft where the dangerous goods are:

...

c) for dropping in connection with agricultural, horticultural, forestry, avalanche control or pollution control activities;

...

Renumber paragraphs 1.1.4.2, 1.1.4.3 and 1.1.4.4 accordingly.

See paragraph 2.2.1 of this report:

1.3 APPLICATION OF STANDARDS

Where the application of a standard is required and there is any conflict between the standard and these Instructions, the Instructions take precedence.

Renumber subsequent paragraphs accordingly

...

Chapter 2

LIMITATION OF DANGEROUS GOODS ON AIRCRAFT

...

2.2 EXCEPTIONS FOR DANGEROUS GOODS OF THE OPERATOR

2.2.1 The provisions of these Instructions do not apply to the following:

...

See paragraph 2.2.5 of this report:

- b) aerosols, alcoholic beverages, perfumes, colognes, ~~safety matches and~~ liquefied gas lighters and portable electronic devices containing lithium metal or lithium ion cells or batteries provided that the batteries meet the provisions of 8:1.1.2 s) carried aboard an aircraft by the operator for use or sale on the aircraft during the flight or series of flights, but excluding non-refillable gas lighters and those lighters liable to leak when exposed to reduced pressure;

...

Chapter 3

GENERAL INFORMATION

Parts of this Chapter are affected by State Variation BE 1; see Table A-1

3.1 DEFINITIONS

The amended definitions for “Approval” and “Exemption” in Annex 18 which were agreed at DGP/22 were subsequently modified. The following amendments align the text in the Instructions with Amendment 10 to Annex 18.

Approval. An authorization granted by the appropriate national authority for:

- a) ~~the transport of those entries listed in Table 3-1 as dangerous goods forbidden on passenger and/or cargo aircraft to which Special Provision A1 or A2 has been assigned in column 7 where the Technical Instructions state that such goods may be carried with an approval;~~ or
- b) other purposes as ~~specified provided for~~ in these ~~se~~ Technical Instructions.

Note.— In the absence of a specific reference in the Technical Instructions allowing the granting of an approval, an exemption may be sought.

...

Exemption. An authorization ~~issued, other than an approval, granted~~ by an appropriate national authority providing relief from the provisions of these ~~se~~ Technical Instructions.

Note.— The requirements for exemptions are given in 1;1.1.2.

...

See paragraph 5.3.1 of this report:

External carriage. Any load suspended from a helicopter or in equipment attached to a helicopter.

...

See paragraph 2.2.1 of this report:

Manual of Tests and Criteria. The fifth revised edition of the United Nations publication entitled Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria (ST/SG/AC.10/11/REV.5 and Amend.1).

See paragraph 2.2.1.3 of this report:

Net quantity. The mass or volume of the dangerous goods contained in a package excluding the mass or volume of any packaging material, ~~except in the case of explosive articles and of matches where the net mass is the mass of the finished article excluding packagings. For the purposes of this definition, “dangerous goods” means the substance or article as described by the proper shipping name shown in Table 3-1, e.g. for “Fire extinguishers”, the net quantity is the mass of the fire extinguisher. For articles packed with equipment or contained in equipment, the net quantity is the net mass of the article, e.g. for lithium ion batteries contained in equipment, the net quantity is the net mass of the lithium ion batteries in the package.~~

See paragraph 2.2.1 of this report:

Pressure receptacle. A collective term that includes cylinders, tubes, pressure drums, closed cryogenic receptacles, metal hydride storage systems ~~and~~, bundles of cylinders and salvage pressure receptacles.

Salvage packagings. Special packagings into which damaged, defective, leaking or nonconforming dangerous goods packages, or dangerous goods that have spilled or leaked, are placed for purposes of transport for recovery or disposal.

Salvage pressure receptacle. (See UN Recommendations, Chapter 1.2). Not permitted for air transport.

See paragraph 3.2.3 of DGP/23-WP/3:

State of Destination. The State in the territory of which the consignment is finally to be unloaded from an aircraft.

An amendment for “State of Origin” was agreed at DGP/22. Since the definition appears in Annex 18, the amendment was not incorporated in the 2011-2012 Edition pending adoption by Council of Amendment 10 to Annex 18. The new definition will appear in the 2013-2014 Edition. A proposal to further amend the definition in order to align it with the new definition for State of Destination was supported at DGP/23 (see DGP/23-WP/3, paragraphs 3.2.2 and 3.2.3).

State of Origin. The State in the territory of which the ~~charge consignment was~~ is first to be loaded on an aircraft.

...

Chapter 4

TRAINING

*Parts of this Chapter are affected by State Variations AE 2, CA 18, HK 1;
see Table A-1*

...

See paragraph 3.2.5 of DGP/23-WP/2:

4.2.3 Recurrent training must be provided within 24 months of previous training to ensure knowledge is current. However, if recurrent training is completed within the final three months of validity of previous training, the period of validity extends from the ~~date month~~ on which the recurrent training was completed until 24 months from the expiry ~~date month~~ of that previous training.

...

4.2.5 A record of training must be maintained which must include:

- a) the individual's name;
- b) the most recent training completion ~~date month~~;
- c) a description, copy or reference to training materials used to meet the training requirements;
- d) the name and address of the organization providing the training; and
- e) evidence which shows that a test has been completed satisfactorily.

Training records must be retained by the employer for a minimum period of 36 months from the most recent training completion ~~date month~~ and must be made available upon request to the employee or appropriate national authority.

...

See paragraph 3.2.4 of DGP/23-WP/3:

4.2.7 Staff of operators not carrying dangerous goods as cargo, ~~or~~ mail ~~or stores~~ must be trained commensurate with their responsibilities. The subject matter to which their various categories of staff should be familiar with is indicated in Table 1-5.

See paragraph 2.2.4 of this report:

Note.— Security staff are required to be trained irrespective of whether the operator on which passenger or cargo is to be transported carries dangerous goods as cargo.

Table 1-4. Content of training courses

...

See paragraph 3.2.4 of DGP/23-WP/3 and paragraph 2.2.4 of this report:

KEY

- 1 — Shippers and persons undertaking the responsibilities of shippers
- 2 — Packers
- 3 — Staff of freight forwarders involved in processing dangerous goods
- 4 — Staff of freight forwarders involved in processing cargo, ~~or~~ mail ~~or stores~~ (other than dangerous goods)
- 5 — Staff of freight forwarders involved in the handling, storage and loading of cargo, ~~or~~ mail ~~or stores~~
- 6 — Operator's and ground handling agent's staff accepting dangerous goods
- 7 — Operator's and ground handling agent's staff accepting cargo, ~~or~~ mail ~~or stores~~ (other than dangerous goods)
- 8 — Operator's and ground handling agent's staff involved in the handling, storage and loading of cargo, ~~or~~ mail ~~or stores~~ and baggage
- 9 — Passenger-handling staff
- 10 — Flight crew members, loadmasters and load planners
- 11 — Crew members (other than flight crew members)
- 12 — Security staff who are involved with the screening of passengers and their baggage and cargo, ~~or~~ mail ~~and stores~~, e.g. security screeners, their supervisors and staff involved in implementing security procedures

...

Table 1-5. Content of training courses for operators not carrying dangerous goods as cargo or mail

...

KEY

- 7 — Operator's and ground handling agent's staff accepting cargo, ~~or~~ mail ~~or stores~~ (other than dangerous goods)
- 8 — Operator's and ground handling agent's staff involved in the handling, storage and loading of cargo, ~~or~~ mail ~~or stores~~ (other than dangerous goods) and baggage
- 9 — Passenger handling staff
- 10 — Flight crew members, loadmasters and load planners
- 11 — Crew members (other than flight crew members)

...

See paragraph 5.7.1 of this report:

4.4 COMPETENCY-BASED TRAINING AND ASSESSMENT

Competency-based training and assessment should be used in accordance with the general provisions contained in Chapter 2 of the Procedures for Air Navigation Services — Training (PANS-TRG, Doc 9868).

See paragraph 2.2.1.4 of this report:

Chapter 5

DANGEROUS GOODS SECURITY

Parts of this Chapter are affected by State Variation US 17; see Table A-1

5.1 GENERAL SECURITY PROVISIONS

...

5.1.3 The provisions of this chapter do not apply to:

a) UN 2908 and UN 2909 excepted packages;

b) UN 2910 and UN 2911 excepted packages with an activity level not exceeding the A_2 value; and

c) UN 2912 LSA-I and UN 2913 SCO-I.

...

5.3 Provisions for high consequence dangerous goods

5.3.1 Definition of high consequence dangerous goods

5.3.1.1 High consequence dangerous goods are those which have the potential for misuse in a terrorist event and which may, as a result, produce serious consequences such as mass casualties, mass destruction or, particularly for Class 7, mass socio-economic disruption.

5.3.1.2 An indicative list of high consequence dangerous goods in classes and divisions other than Class 7 is given in Table 1-6.

Table 1-6. Indicative list of high consequence dangerous goods

Class 1 Division 1.1 explosives
Class 1 Division 1.2 explosives
Class 1 Division 1.3 compatibility group C explosives
Class 1 Division 1.4 UN Nos. 0104, 0237, 0255, 0267, 0289, 0361, 0365, 0366, 0440, 0441, 0455, 0456 and 0500
Class 1 Division 1.5 explosives
Division 2.3 toxic gases (excluding aerosols)
Class 3 desensitized explosives
Division 4.1 desensitized explosives
Division 6.1 substances of Packing Group 1; except when transported under the excepted quantity provisions in 3;5
Division 6.2 infectious substances of Category A (UN Nos. 2814 and 2900)
Class 7 radioactive materials in quantities greater than 3000 A_1 (special form) or 3000 A_2, as applicable in Type B and Type C packages.

5.3.1.3 For dangerous goods of Class 7, high consequence radioactive material is that with an activity equal to or greater than a transport security threshold of 3 000 A_2 per single package (see also 2;7.2.2.1) except for the following radionuclides where the transport security threshold is given in Table 1-7 below.

Table 1-7. Transport security thresholds for specific radionuclides

<u>Element</u>	<u>Radionuclide</u>	<u>Transport security threshold (TBq)</u>
<u>Americium</u>	<u>Am-241</u>	<u>0.6</u>
<u>Gold</u>	<u>Au-198</u>	<u>2</u>
<u>Cadmium</u>	<u>Cd-109</u>	<u>200</u>
<u>Californium</u>	<u>Cf-252</u>	<u>0.2</u>
<u>Curium</u>	<u>Cm-244</u>	<u>0.5</u>
<u>Cobalt</u>	<u>Co-57</u>	<u>7</u>
<u>Cobalt</u>	<u>Co-60</u>	<u>0.3</u>
<u>Caesium</u>	<u>Cs-137</u>	<u>1</u>
<u>Iron</u>	<u>Fe-55</u>	<u>8000</u>
<u>Germanium</u>	<u>Ge-68</u>	<u>7</u>
<u>Gadolinium</u>	<u>Gd-153</u>	<u>10</u>
<u>Iridium</u>	<u>Ir-192</u>	<u>0.8</u>
<u>Nickel</u>	<u>Ni-63</u>	<u>600</u>
<u>Palladium</u>	<u>Pd-103</u>	<u>900</u>
<u>Promethium</u>	<u>Pm-147</u>	<u>400</u>
<u>Polonium</u>	<u>Po-210</u>	<u>0.6</u>
<u>Plutonium</u>	<u>Pu-238</u>	<u>0.6</u>
<u>Plutonium</u>	<u>Pu-239</u>	<u>0.6</u>
<u>Radium</u>	<u>Ra-226</u>	<u>0.4</u>
<u>Ruthenium</u>	<u>Ru-106</u>	<u>3</u>
<u>Selenium</u>	<u>Se-75</u>	<u>2</u>
<u>Strontium</u>	<u>Sr-90</u>	<u>10</u>
<u>Thallium</u>	<u>Tl-204</u>	<u>200</u>
<u>Thulium</u>	<u>Tm-170</u>	<u>200</u>
<u>Ytterbium</u>	<u>Yb-169</u>	<u>3</u>

5.3.1.4 For mixtures of radionuclides, determination of whether or not the transport security threshold has been met or exceeded can be calculated by summing the ratios of activity present for each radionuclide divided by the transport security threshold for that radionuclide. If the sum of the fractions is less than 1, then the radioactivity threshold for the mixture has not been met nor exceeded.

This calculation can be made with the formula:

$$\sum_i \frac{A_i}{T_i} < 1$$

Where:

A_i = activity of radionuclide i that is present in a package (TBq)

T_i = transport security threshold for radionuclide i (TBq).

5.3.1.5 When radioactive material possess subsidiary risks of other classes or divisions, the criteria of Table 1-6 should also be taken into account (see also 1;6.5).

5.34 SECURITY PLANS

5.34.1 Operators, shippers and others (including infrastructure managers) engaged in the transport of high consequence dangerous goods (see 5.3.1) should adopt, implement and comply with a security plan that addresses at least the elements specified in 5.34.2. High consequence dangerous goods are those which have the potential for misuse in a terrorist incident and which may, as a result, produce serious consequences such as mass casualties or mass destruction. An indicative list of high consequence dangerous goods is provided in Table 1-6.

Note.— When national authorities issue exemptions, they should consider all of the provisions in this Chapter.

5.34.2 The security plan should comprise at least the following elements:

- specific allocation of responsibilities for security to competent and qualified persons with appropriate authority to carry out their responsibilities;
- records of dangerous goods or types of dangerous goods transported;
- review of current operations and assessment of vulnerabilities, including inter-modal transfer, temporary transit storage, handling, and distribution, as appropriate;

- d) clear statement of measures including training policies (including response to higher threat conditions, new employee/ employment verifications, etc.), operating practices (e.g. access to dangerous goods in temporary storage proximity to vulnerable infrastructure, etc.), equipment and resources that are to be used to reduce security risks;
- e) effective and up-to-date procedures for reporting and dealing with security threats, breaches of security or security incidents;
- f) procedures for the evaluation and testing of security plans and procedures for periodic review and update of the plans;
- g) measures to ensure the security of transport information contained in the plan; and
- h) measures to ensure that the security of the distribution of transport documentation is limited as far as possible. (Such measures must not preclude provision of the transport documentation required by Part 5, Chapter 4 of these Instructions.)

Note.— Operators, shippers and others with responsibilities for the safe and secure transport of dangerous goods should cooperate with each other and with appropriate authorities to exchange threat information, apply appropriate security measures and respond to security incidents.

5.45 RADIOACTIVE MATERIAL

For radioactive material, the provisions of this Chapter are deemed to be complied with when the provisions of the Convention on Physical Protection of Nuclear Material¹ and the IAEA circular on "The Physical Protection of Nuclear Material and Nuclear Facilities"² are applied.

...

See paragraph 2.2.3 of this report:

Chapter 7

INCIDENTS AND ACCIDENT REPORTING

Entities other than operators who are in possession of dangerous goods at the time a dangerous goods accident or incident occurs or at the time a dangerous goods incident is discovered to have occurred should follow the reporting requirements of Part 7;4.4. Entities other than operators who discover undeclared or misdeclared dangerous goods should follow the reporting requirements of Part 7;4.5. These entities may include, but are not limited to, freight forwarders, customs authorities and security screening providers.

...

Part 2

CLASSIFICATION OF DANGEROUS GOODS

INTRODUCTORY CHAPTER

Parts of this Chapter are affected by State Variations DE 5, NL 4; see Table A-1

...

See paragraph 2.3.1 of this report:

1. IAEA/INFCIRC/274/Rev.1, IAEA, Vienna (1980).

2. IAEA/INFCIRC/225/Rev.4 (Corrected), IAEA, Vienna (1999). See also "Guidance and Considerations for the Implementation of INFCIRC/225/Rev.4, the Physical Protection of Nuclear Material and Nuclear Facilities, IAEA-TECDOC-967/Rev.1.

3.5 A mixture or solution meeting the classification criteria of these Instructions composed of a single predominant substance identified by name in Table 3-1 and one or more substances not subject to these Instructions and/or traces of one or more substances identified by name in Table 3-1 must be assigned the UN number and proper shipping name of the predominant substance named in Table 3-1, unless:

- a) the mixture or solution is identified by name in Table 3-1 in which case this name must be applied; or
- b) the name and description of the substance named in Table 3-1 specifically indicates that it applies only to the pure substance; or
- c) the hazard class or division, subsidiary risk(s), physical state or packing group of the solution or mixture is different from that of the substance named in Table 3-1; or
- d) the hazard characteristics and properties of the mixture or solution necessitate emergency response measures that are different from those required for the substance identified by name in Table 3-1.

...

3.9 A mixture or solution meeting the classification criteria of these Instructions that is not identified by name in Table 3-1 and that is composed of two or more dangerous goods must be assigned to an entry that has the proper shipping name, description, hazard class or division, subsidiary risk(s) and packing group that most precisely describe the mixture or solution.

...

See paragraph 2.3.3 of this report:

5. Transport of samples

5.3 Samples of the substance must be transported in accordance with the requirements applicable to the tentative assigned proper shipping name provided:

- a) the substance is not considered to be a substance ~~prohibited-~~ forbidden for transport by 1;2.1;

...

See paragraph 2.3.1 of this report:

Chapter 1

CLASS 1 — EXPLOSIVES

Parts of this Chapter are affected by State Variations BE 2, DQ 2, GB 1, HK 3, US 5; see Table A-1

...

1.1 DEFINITIONS AND GENERAL PROVISIONS

Class 1 comprises:

...

- b) explosive articles, except devices containing explosive substances in such quantity or of such a character that their inadvertent or accidental ignition or initiation during transport will not cause any effect external to the device either by projection, fire, smoke, heat or loud noise (see 1.5.2); and

...

1.3 DIVISIONS

1.3.1 Class 1 is divided into six divisions:

...

f) Division 1.6 — Extremely insensitive articles which do not have a mass explosion hazard.

This division comprises articles which contain only extremely insensitive ~~detonating~~ substances and which demonstrate a negligible probability of accidental initiation or propagation.

Note.— *The risk from articles of Division 1.6 is limited to the explosion of a single article.*

See paragraph 2.3.3 of this report:

1.3.2 Any substance or article having or suspected of having explosive characteristics must first be considered for classification in Class 1 in accordance with the procedures in 1.5.1.1 to 1.5.1.3. Goods are not classified in Class 1 when:

a) unless specially authorized, the transport of an explosive substance is ~~prohibited~~ forbidden because sensitivity of the substance is excessive;

...

See paragraph 2.3.1 of this report:

Table 2-2. Classification codes

<i>Description of substance or article to be classified</i>	<i>Compatibility group</i>	<i>Classification code</i>
...		
Articles containing only extremely insensitive detonating substances	N	1.6N
...		

...

1.5 CLASSIFICATION OF EXPLOSIVES

...

1.5.2.4 An article may be excluded from Class 1 when three unpackaged articles, each individually activated by its own means of initiation or ignition or external means to function in the designed mode, meet the following test criteria:

a) no external surface has a temperature of more than 65°C. A momentary spike in temperature up to 200°C is acceptable;

b) no rupture or fragmentation of the external casing or movement of the article or detached parts thereof of more than one metre in any direction;

Note.— Where the integrity of the article may be affected in the event of an external fire, these criteria must be examined by a fire test, such as described in ISO 12097-3.

c) no audible report exceeding 135 dB(C) peak at a distance of one metre;

d) no flash or flame capable of igniting a material such as a sheet of 80 ± 10 g/m² paper in contact with the article; and

e) no production of smoke, fumes or dust in such quantities that the visibility in a one cubic metre chamber equipped with appropriately sized blow out panels is reduced more than 50 per cent as measured by a calibrated light (lux) meter or radiometer located one metre from a constant light source located at the midpoint on opposite walls. The general guidance on optical density testing in ISO 5659-1 and the general guidance on the photometric system described in Section 7.5 in ISO 5659-2 may be used or similar optical density measurement methods designed to accomplish the same purpose may also be employed. A suitable hood cover surrounding the back and sides of the light meter must be used to minimize effects of scattered or leaking light not emitted directly from the source.

Note 1.— If during the tests addressing criteria a), b), c) and d) no or very little smoke is observed, the test described in e) may be waived.

Note 2.— The appropriate national authority may require testing in packaged form if it is determined that, as packaged for transport, the article may pose a greater risk.

...

Chapter 2

CLASS 2 — GASES

*Parts of this Chapter are affected by State Variation US 6;
see Table A-1*

...

2.2 DIVISIONS

2.2.1 Substances of Class 2 are assigned to one of three divisions based on the primary hazard of the gas during transport.

*Note.— UN 1950 — **Aerosols**, UN 2037 — **Receptacles, small, containing gas** and UN 2037 — **Gas cartridges** must be regarded as being in Division 2.1 when the criteria in 2.5.1 a) are met.*

a) Division 2.1 — Flammable gases.

Gases which at 20°C and a standard pressure of 101.3 kPa:

- i) are ignitable when in a mixture of 13 per cent or less by volume with air; or
- ii) have a flammable range with air of at least 12 percentage points regardless of the lower flammable limit. Flammability must be determined by tests or by calculation in accordance with methods adopted by ISO (see ~~ISO Standard 40156:1996~~ [ISO 10156:2010](#)). Where insufficient data are available to use these methods, tests by a comparable method recognized by the appropriate national authority must be used.

*Note.— UN 1950 — **Aerosols** and UN 2037 — **Receptacles, small, containing gas** must be regarded as being in Division 2.1 when the criteria in 2.5.1 a) are met.*

b) Division 2.2 — Non-flammable, non-toxic gases.

Gases which:

- i) are asphyxiant — gases which dilute or replace the oxygen normally in the atmosphere; or
- ii) are oxidizing — gases which may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does; or
- iii) do not come under the other divisions.

Note.— In 2.2.1 b) ii), “gases which cause or contribute to the combustion of other material more than air does” means pure gases or gas mixtures with an oxidizing power greater than 23.5 per cent as determined by a method specified in ~~ISO 40156:1996 or 40156-2:2005~~ [ISO 10156:2010](#).

...

2.4 MIXTURES OF GASES

For the classification of gas mixtures into one of the three divisions (including vapours of substance from other classes), the following principles must be used:

- a) Flammability must be determined by tests or by calculation in accordance with methods adopted by ISO (see ~~ISO Standard 40156:1996~~ [ISO 10156:2010](#)). Where insufficient data are available to use these methods, tests by a comparable method recognized by the appropriate national authority may be used.

...

- d) Oxidizing ability is determined either by tests or by calculation methods adopted by the International Standards Organization (see the Note in 2.2.1 b) and ~~ISO 40156:1996~~ISO 10156:2010, and ISO 40156-2:2005).

See paragraph 2.3.3 of this report:

2.5 AEROSOLS

2.5.1 For aerosols, the division of Class 2 and the subsidiary risks depend on the nature of the contents of the aerosol dispenser. The following provisions must apply:

...

- f) aerosols with contents meeting the criteria of Packing Group I for toxicity or corrosivity are ~~prohibited~~forbidden from transport.

...

Chapter 3

CLASS 3 — FLAMMABLE LIQUIDS

...

3.2 ASSIGNMENT OF PACKING GROUPS

See paragraph 2.3.2 of this report:

...

~~3.2.2~~ Viscous substances such as paints, enamels, lacquers, varnishes, adhesives and polishes having a flash point below 23°C may be placed in Packing Group III in conformity with the procedures prescribed in Part III, subsection 32.3, UN Manual of Tests and Criteria, on the basis of:

- ~~a) the viscosity expressed as the flow time in seconds;~~
- ~~b) the closed cup flash point;~~
- ~~c) a solvent separation test; and~~
- ~~d) the size of the receptacle.~~

3.2.32 *Criteria for inclusion in Packing Group III*

Viscous flammable liquids such as paints, enamels, varnishes, adhesives and polishes with a flash point of less than 23°C are included in Packing Group III may be assigned to Packing Group III in conformity with the procedures prescribed in Part III, subsection 32.3 of the UN Manual of Tests and Criteria provided that:

- a) less than 3 per cent of the clear solvent layer separates in the solvent separation test;
- b) the mixture or any separated solvent does not meet the criteria for Division 6.1 or Class 8;
- c) the viscosity and flash point are in accordance with Table 2-5;
- d) the capacity of the receptacle used does not exceed 30 L when assigned to Packing Group III, the flammable liquids must not exceed a net quantity per package of 30 L for passenger aircraft or 100 L for cargo aircraft.

~~3.2.4.3~~ Substances classified as flammable liquids due to their being transported or offered for transport at elevated temperatures are included in Packing Group III.

...

Chapter 5

CLASS 5 — OXIDIZING SUBSTANCES; ORGANIC PEROXIDES

...

See paragraph 3.2.1 of this report:

Table 2-7. List of currently assigned organic peroxides in packages

Note.— Peroxides to be transported must fulfil the classification and the control and emergency temperatures (derived from the self-accelerating decomposition temperature (SADT)) as listed.

Organic peroxide	Concentration (per cent)	Diluent type A (per cent)	Diluent type B (per cent) (Note 1)	Inert solid (per cent)	Water (per cent)	Control tempera- ture (°C)	Emergency tempera- ture (°C)	UN generic entry	Notes
...									
<u>([3r-(3r,5as,6s,8as,9r,10r,12s,12ar**)]- Decahydro-10-methoxy-3,6,9- trimethyl-3,12-epoxy-12h-pyrano[4,3- j]-1,2-benzodioxepin)</u>	≤ 100							3106	
Diacetone alcohol peroxides	≤57		≥26		≥8	+40	+45	3115	6
...									
Diisopropyl peroxydicarbonate	≤28 ≤32		≥72			-15	-5	3115	
...									
<u>3,6,9-Triethyl-3,6,9-trimethyl-1,4,7 triperoxonane</u>	≤ 17		≥ 18		≥ 65			3110	
3,6,9-Triethyl-3,6,9-trimethyl-1,4,7- triperoxonane	≤42		≥58					3105	28

...

Chapter 6

CLASS 6 — TOXIC AND INFECTIOUS SUBSTANCES

...

6.3 DIVISION 6.2 — INFECTIOUS SUBSTANCES

...

6.3.2 Classification of infectious substances

...

6.3.2.3.3 Substances in a form that any present pathogens have been neutralized or inactivated such that they no longer pose a health risk are not subject to these Instructions unless they meet the criteria for inclusion in another class.

...

See paragraphs 3.2.7.1 b) and c) of DGP/23-WP/3 and paragraphs 2.3.1.5 and 2.3.5 of this report:

6.3.2.3.7 Except for:

a) medical waste (UN 3291);

b) medical devices or equipment contaminated with or containing infectious substances in Category A (UN 2814 or UN 2900); and

c) medical devices or equipment contaminated with or containing other dangerous goods that meet the definition of another hazard class.

medical devices or equipment potentially contaminated with or containing infectious substances which are being transported for disinfection, cleaning, sterilization, repair, or equipment evaluation are not subject to the provisions of these Instructions if packed in packagings designed and constructed in such a way that, under normal conditions of transport, they cannot break, be punctured or leak their contents. Packagings must be designed to meet the construction requirements listed in 6.3.

6.3.2.3.7.1 These packagings must meet the general packing requirements of 4.1.1.1, 4.1.1.3.1 and 4.1.1.4 (with the exception of 4.1.1.4.1). If the outer packaging is not liquid tight and the medical devices or equipment are contaminated with or contain liquid infectious substances, a means of containing the liquid in the event of leakage must be provided in the form of a leakproof liner, plastic bag or other equally effective means of containment. These packagings must be capable of retaining the medical devices and equipment when dropped from a height of 1.2 m.

6.3.2.3.7.2 Packages must be marked "Used medical device" or "Used medical equipment". When an overpack is used, it must be marked with the words "Used medical device" or "Used medical equipment" unless the markings are visible.

...

Chapter 7

CLASS 7 — RADIOACTIVE MATERIAL

...

Table 2-12. Basic radionuclides values for individual radionuclides

See paragraph 2.3.4 of this report:

<i>Radionuclide (atomic number)</i>	<i>Speical form A₁ (TBq)</i>	<i>Other form A₂ (TBq)</i>	<i>Activity concentration for exempt material (Bq/g)</i>	<i>Activity limit for an exempt consignment (Bq)</i>
---	---	---	--	--

Chapter 8

CLASS 8 — CORROSIVE SUBSTANCES

...

See paragraph 2.3.1 of this report:

Table 2-16. Summary of criteria for assigning packing groups to corrosive substances

<i>Packing Group</i>	<i>Exposure Time</i>	<i>Observation Period</i>	<i>Effect</i>
I	≤ 3 min	≤ 60 min	Full thickness destruction of intact skin
II	> 3 min ≤ 1 h	≤ 14 d	Full thickness destruction of intact skin

<u>III</u>	<u>> 1 h ≤ 4 h</u>	<u>≤ 14 d</u>	<u>Full thickness destruction of intact skin</u>
<u>III</u>	<u>==</u>	<u>==</u>	<u>Corrosion rate on either steel or aluminium surfaces exceeding 6.25 mm a year at a test temperature of 55 °C when tested on both materials</u>

...

Chapter 9

CLASS 9 — MISCELLANEOUS DANGEROUS SUBSTANCES AND ARTICLES, INCLUDING ENVIRONMENTALLY HAZARDOUS SUBSTANCES

...

9.2 ASSIGNMENT TO CLASS 9

See paragraph 3.2.3.2 of DGP/23-WP/3 and paragraph 2.3.1.3 of this report:

9.2.1 Class 9 includes, inter alia:

- a) Environmentally hazardous substances (aquatic environment) are those that meet the criteria in 2.9.3 of the UN Model Regulations, ~~15th revised edition~~, or that meet criteria in international regulations or national regulations established by the appropriate national authority in the State of Origin, transit or destination of the consignment.

Substances or mixtures dangerous to the aquatic environment not otherwise classified under these Instructions must be assigned to Packing Group III and designated:

UN 3077 Environmentally hazardous substance, solid, n.o.s.; or
UN 3082 Environmentally hazardous substance, liquid, n.o.s.

...

See paragraph 3.2.23.1 c) of DGP/23-WP/3 and Corrigendum to the UN Model Regulations (Seventeenth revised Edition) (ST/SG/AC.10/1/Rev.17, July 2011):

9.3 LITHIUM BATTERIES

9.3.1 Cells and batteries, cells and batteries contained in equipment, or cells and batteries packed with equipment, containing lithium in any form must be assigned to UN Nos. 3090, 3091, 3480 or 3481 as appropriate. They may be transported under these entries if they meet the following provisions:

- a) each cell or battery is of the type proved to meet the requirements of each test of the UN Manual of Tests and Criteria, Part III, sub-section 38.3. Batteries and cells manufactured before 1 January 2014 conforming to a design type tested according to the requirements of the fifth revised edition of the UN Manual of Tests and Criteria, Part III, sub-section 38.3 may continue to be transported;

Note.— Batteries must be of a design type proved to meet the testing requirements of the UN Manual of Tests and Criteria, Part III, sub-section 38.3, irrespective of whether the cells of which they are composed are of a tested design type.

- b) each cell and battery incorporates a safety venting device or is designed to preclude a violent rupture under conditions normally incident to transport;

- c) each cell and battery is equipped with an effective means of preventing external short circuits;

- d) each battery containing cells or series of cells connected in parallel is equipped with effective means as necessary to prevent dangerous reverse current flow (e.g. diodes, fuses, etc.);

- e) cells and batteries must be manufactured under a quality management programme that includes:

- 1) a description of the organizational structure and responsibilities of personnel with regard to design and product

quality:

- 2) the relevant inspection and test, quality control, quality assurance, and process operation instructions that will be used;
- 3) process controls that should include relevant activities to prevent and detect internal short circuit failure during manufacture of cells;
- 4) quality records, such as inspection reports, test data, calibration data and certificates. Test data must be kept and made available to the appropriate national authority upon request;
- 5) management reviews to ensure the effective operation of the quality management programme;
- 6) a process for control of documents and their revision;
- 7) a means for control of cells or batteries that are not conforming to the type tested in accordance with Part III, sub-section 38.3 of the UN *Manual of Tests and Criteria*;
- 8) training programmes and qualification procedures for relevant personnel; and
- 9) procedures to ensure that there is no damage to the final product.

Note.— In-house quality management programmes may be accepted. Third party certification is not required, but the procedures listed in 1) to 9) above must be properly recorded and traceable. A copy of the quality management programme must be made available to the appropriate national authority upon request.

...

Part 3

DANGEROUS GOODS LIST, SPECIAL PROVISIONS AND LIMITED AND EXCEPTED QUANTITIES

Chapter 1

GENERAL

...

1.3 MIXTURES OR SOLUTIONS

...

See paragraph 2.4.1 of this report:

1.3.2 A mixture or solution meeting the classification criteria of these Instructions composed of a single predominant substance identified by name in Table 3-1 and one or more substances not subject to these Instructions and/or traces of one or more substances identified by name in Table 3-1 must be assigned the UN number and proper shipping name of the predominant substance named in Table 3-1, unless:

- a) the mixture or solution is specifically identified by name in Table 3-1 in which case this name must be applied; or

...

1.3.4 A mixture or solution meeting the classification criteria of these Instructions that is not identified by name in Table 3-1 and that is composed of two or more dangerous goods must be assigned to an entry that has the proper shipping name, description, hazard class or division, subsidiary risk(s) and packing group that most precisely describe the solution or mixture.

...

Chapter 2

ARRANGEMENT OF THE DANGEROUS GOODS LIST (TABLE 3-1)

2.1 ARRANGEMENT OF THE DANGEROUS GOODS LIST (TABLE 3-1)

...

See paragraph 3.2.12 of DGP/23-WP/3 and 2.4.11.3 of this report:

Column 11 “Passenger aircraft — Maximum net quantity per package” — this column shows the maximum net quantity (mass or volume) of the article or substance allowed in each package for transport on a passenger aircraft. ~~The mass quoted is the net mass unless otherwise indicated by a letter “G”.~~ Where a maximum net quantity appears beside a packing instruction prefixed by the letter “Y”, this indicates it is the maximum net quantity permitted in a packaging containing limited quantities of dangerous goods unless indicated by a letter “G” where the mass quoted is the total mass of the package. The maximum quantity per package may be further limited by the type of packaging used. The maximum net quantities indicated may be exceeded only if specified in these Instructions or as permitted in the Supplement to these Instructions in S-3;2 with the approval of the appropriate national authority of the State of Origin and the State of the Operator.

Column 12 “Cargo aircraft — Packing instruction” — this column provides information similar to that in column 10, but for articles or substances which may be transported on a cargo aircraft only.

Column 13 “Cargo aircraft — Maximum net quantity per package” — this column provides information similar to that in column 11, but for articles or substances which may be transported on a cargo aircraft only. ~~The mass quoted is the net mass unless otherwise indicated by a letter “G”.~~ The maximum quantity per package may be further limited by the type of packaging used. The maximum net quantities indicated do not apply to transport in portable tanks, as permitted in the Supplement to these Instructions, Part S-4, Chapter 12, with the approval of the appropriate authority of the State of Origin and the State of the Operator. The maximum net quantities indicated may be exceeded only if specified in these Instructions or as permitted in the Supplement to these Instructions in S-3;2 with the approval of the appropriate national authority of the State of Origin and the State of the Operator.

...

<i>Abbreviation</i>	<i>Column</i>	<i>Meaning</i>
G	11 and 13	Gross mass of package as prepared for transport

...

See the attachments to this working paper for amendments to Table 3-1 (Attachment A = UN Number order and Attachment B = alphabetical order, proper shipper name)

...

Chapter 3

SPECIAL PROVISIONS

Parts of this Chapter are affected by State Variations AU 2, CA 7, CA 8, GB 3, IR 3, JM 1, NL 1, US 11, ZA 1; see Table A-1

...

Table 3-2. Special provisions

TIs	UN
See paragraph 3.2.9.1 a) of DGP/23-WP/3:	
A21	<p>This entry only applies to vehicles and equipment which are powered by wet batteries, sodium batteries, <u>lithium metal batteries</u> or lithium <u>ion</u> batteries and equipment powered by wet batteries or sodium batteries which are transported with these batteries installed.</p> <p><u>For the purpose of this special provision, vehicles are self-propelled apparatus designed to carry one or more persons or goods. Examples of such vehicles and equipment are electrically-powered cars, lawn mowers, motorcycles, scooters, three- and four-wheeled vehicles or motorcycles, battery-assisted bicycles, wheelchairs, lawn tractors, boats and aircraft and other mobility aids. Examples of equipment are lawnmowers, cleaning machines or model boats and model aircraft.</u></p> <p><u>Equipment powered by lithium metal batteries or lithium ion batteries must be consigned under the entries UN 3091 Lithium metal batteries contained in equipment or UN 3091 Lithium metal batteries packed with equipment or UN 3481 Lithium ion batteries contained in equipment or UN 3481 Lithium ion batteries packed with equipment, as appropriate.</u></p> <p>Vehicles or equipment that also contain an internal combustion engine must be consigned under the entries <u>UN 3166 Engines, internal combustion, flammable gas powered</u> or <u>UN 3166 Engines, internal combustion, flammable liquid powered</u> or <u>UN 3166 Vehicle, flammable gas powered</u> or <u>UN 3166 Vehicle, flammable liquid powered</u>, as appropriate. Hybrid electric vehicles powered by both an internal combustion engine and wet batteries, sodium batteries, <u>lithium metal batteries</u> or lithium <u>ion</u> batteries, transported with the battery(ies) installed, must be consigned under the entries UN 3166 <u>Vehicle, flammable gas powered</u> or UN 3166 <u>Vehicle, flammable liquid powered</u>, as appropriate.</p> <p>Vehicles or equipment powered by a fuel cell engine must be consigned under the entries <u>UN 3166 Vehicle, fuel cell, flammable gas powered</u> or <u>UN 3166 Vehicle, fuel cell, flammable liquid powered</u>, or <u>UN 3166 Engine, fuel cell, flammable gas powered</u> or <u>UN 3166 Engine, fuel cell, flammable liquid powered</u>, as appropriate.</p>

TIs UN

See paragraphs 2.2.2 and 2.4.1 of this report:

A32 Air bag inflators, air bag modules or seat-belt pretensioners ~~installed in conveyances or in completed conveyance components installed in vehicles, vessels or aircraft or in completed components~~ such as steering columns, door panels, seats, etc., which are not capable of inadvertent activation are not subject to these Instructions when carried as cargo. The words "not restricted" and the special provision number A32 must be provided on the air waybill when an air waybill is issued.

See paragraph 2.3.3 of this report:

A33 (103) Ammonium nitrites and mixtures of an inorganic nitrite with an ammonium salt are ~~prohibited~~ forbidden.

A34 (113) The transport of chemically unstable mixtures is ~~prohibited~~ forbidden.

A37 This entry is not intended to include Ammonium permanganate, the transport of which is ~~prohibited~~ forbidden under any circumstances.

See paragraph 2.2.2 of this report:

A41 Permeation devices that contain dangerous goods and that are used for calibrating air quality monitoring devices are not subject to these Instructions when carried as cargo provided the following requirements are met:

a) Each device must be constructed of a material compatible with the dangerous goods it contains;

...

See paragraph 3.2.15 of DGP/23-WP/3 and paragraph 2.4.1.2 of this report:

A44 The entry chemical kit or first aid kit is intended to apply to boxes, cases, etc., containing small quantities of ~~one or more compatible items of various~~ dangerous goods which are used, for example, for medical, analytical or testing or repair purposes. Components must not react dangerously (see 4;1.1.8). The packing group assigned to the kit as a whole must be the most stringent packing group assigned to any individual substance in the kit. The assigned packing group must be shown on the dangerous goods transport document. Where the kit contains only dangerous goods to which no packing group is assigned, a packing group must not be indicated on the dangerous goods transport document.

The only dangerous goods which are permitted in the kits are substances which may be transported as:

a) excepted quantities as specified in column 9 of Table 3-1, provided the inner packagings and quantities are as prescribed in 5.1.2 and 5.2.1 a); or

b) limited quantities under 3;4.1.2.

...

See paragraph 2.4.14 of this report:

A46 Mixtures of solids which are not subject to these Instructions and flammable liquids may be transported under this entry without first applying the classification criteria of Division 4.1, providing there is no free liquid visible at the time the substance is packaged and, for single packagings, the packaging must pass a leakproofness test at the Packing Group II level. Small inner packagings consisting of sealed packets or articles containing less than 10 mL of a Packing Group II or III flammable liquid absorbed into a solid material are not subject to these Instructions provided there is no free liquid in the packet or articles.

TIs UN

See paragraph 2.2.2 of this report:

- A47 (219) Genetically modified micro-organisms (GMMOs) and genetically modified organisms (GMOs) packed and marked in accordance with Packing Instruction 959 are not subject to any other requirements in these Instructions when carried as cargo.

If GMMOs or GMOs meet the definition in 2.6 of a toxic substance or an infectious substance and meet the criteria for inclusion in Division 6.1 or 6.2, the requirements in these Instructions for transporting toxic substances or infectious substances apply.

See paragraph 2.4.14 of this report:

- A50 Mixtures of solids which are not subject to these Instructions and toxic liquids may be transported under this entry without first applying the classification criteria of Division 6.1, providing there is no free liquid visible at the time the substance is packaged and, for single packagings, the packaging must pass a leakproofness test at the Packing Group II level. This entry must not be used for solids containing a Packing Group I liquid.

See paragraph 3.2.12 of DGP/23-WP/3 and paragraph 2.4.7 of this report:

- A51 Irrespective of the limit specified in column 11 of Table 3-1, aircraft batteries may be transported on passenger aircraft as follows:
- a) wet cell batteries, UN 2794 or UN 2795, up to a limit of 100 kg gross net mass per package may be transported;
 - b) lithium ion batteries, UN 3480, packages containing a single aircraft battery with a net mass not exceeding 35 kg; and
 - c) Transport in accordance with this special provision must be noted on the dangerous goods transport document.

See paragraph 2.2.2 of this report:

- A67 Non-spillable batteries meeting the requirements of Packing Instruction 872 are not subject to these Instructions when carried as cargo if, at a temperature of 55°C, the electrolyte will not flow from a ruptured or cracked case. The battery must not contain any free or unabsorbed liquid. Any electrical battery or battery powered device, equipment or vehicle having the potential of dangerous evolution of heat must be prepared for transport so as to prevent:

See paragraph 2.4.1 of this report:

- A68 (272) This substance must not be transported under the provisions of Division 4.1 unless specifically authorized by the appropriate national authority. (See UN 0143 or UN 0150 as appropriate.)

See paragraph 2.4.15 of this report:

- A69 The following are not subject to these Instructions when carried as cargo:
- a) articles such as thermometers, switches and relays, each containing a total quantity of not more than 15 g of mercury, if they are installed as an integral part of a machine or apparatus and so fitted that shock or impact damage, leading to leakage of mercury, is unlikely to occur under normal conditions of transport.
 - b) lamps, each containing not more than 1 g of mercury and packaged so that there is not more than 30 g of mercury per package. Packages must be so designed and constructed such that when subjected to drop tests from a height of not less than 0.5 m the packages must still be fit for transport and there must be no damage to the contents.

TIs UN

c) Articles, each containing not more than 100 mg of mercury, gallium or inert gas and packaged so that the quantity of mercury, gallium or inert gas per package ~~does not exceed~~ is 1 g ~~or less, are not subject to these instructions when carried as cargo.~~

The words "not restricted" and the special provision number A69 must be provided on the air waybill when an air waybill is issued.

See paragraph 3.2.10 of DGP/23-WP/3 and paragraph 2.2.2 of this report:

A70 Internal combustion or fuel cell engines being shipped either separately or incorporated into a vehicle, machine or other apparatus, ~~the fuel tank of which has never contained any fuel and the fuel system of which is completely empty of fuel, or that are powered by a fuel that does not meet the classification criteria for any class or division, and~~ without batteries or other dangerous goods, are not subject to these Instructions when carried as cargo provided that:

a) for flammable liquid powered engines:

1) the engine is powered by a fuel that does not meet the classification criteria for any class or division; or

2) the fuel tank of the vehicle, machine or other apparatus has never contained any fuel or the fuel tank has been flushed and purged of vapours and adequate measures taken to nullify the hazard; and

3) the entire fuel system of the engine has no free liquid and all fuel lines are sealed or capped or securely connected to the engine and vehicle, machinery or apparatus.

b) for flammable gas powered internal combustion or fuel cell engines ~~being shipped without batteries or other dangerous goods either separately or incorporated into a vehicle, machine or other apparatus that have contained fuel but:~~

1) the entire fuel system must have been flushed, purged and filled with a non-flammable gas or fluid to nullify the hazard ~~are not subject to these instructions provided that:~~

2) the final pressure of the non-flammable gas used to fill the system does not exceed 200 kPa at 20°C

a3) the shipper has made prior arrangements with the operator; ~~and~~

b4) the shipper has provided the operator with written or electronic documentation stating that the flushing, purging and filling procedure has been followed and that the final contents of the engine(s) have been tested and verified to be non-flammable; ~~and.~~

~~c) the final pressure of the non-flammable gas used to fill the system does not exceed 200 kPa at 20°C.~~

Multiple engines may be shipped in a unit load device or other type of pallet provided that the shipper has made prior arrangements with the operator(s) for each shipment.

When this special provision is used, the words "not restricted" and the special provision number A70 must be provided on the air waybill when an air waybill is issued.

See paragraph 2.4.10 of this report:

A75 Articles such as sterilization devices, when containing less than 30 mL per inner packaging with not more than 150 mL per outer packaging, may be transported on passenger and cargo aircraft in accordance with the provisions in 3;5, irrespective of the value in column 9 and the indication of "forbidden" in columns 10 to 13 of the Dangerous Goods List (Table 3-1), provided such packagings were first subjected to comparative fire testing. Comparative fire testing ~~must show no difference in burning rate~~ between a package as prepared for transport (including the substance to be transported) and an identical package filled with water must show that the maximum temperature measured inside the packages during testing does not differ by more than 200°C. Packagings may include a vent to permit the slow escape of gas (i.e. not more than 0.1 mL/hour per 30 mL inner packaging at 20°C) produced from gradual decomposition.

TIs UN

See paragraph 2.4.14 of this report:

- A77 Mixtures of solids which are not subject to these Instructions and corrosive liquids may be transported under this entry without first applying the classification criteria of Class 8, providing there is no free liquid visible at the time the substance is packaged and, for single packagings, the packaging must pass a leakproofness test at the Packing Group II level.

See paragraph 2.4.1 of this report:

- A94 Batteries or cells containing sodium must not contain dangerous goods other than ~~sodium, sulphur and/or polysulphides~~ sodium, sulphur or sodium compounds (e.g. sodium polysulphides and sodium tetrachloroaluminate). Batteries or cells must not be offered for transport at a temperature such that liquid elemental sodium is present in the battery or cell unless approved and under the conditions established by the appropriate national authority.

Cells must consist of hermetically sealed metal casings which fully enclose the dangerous goods and which are so constructed and closed as to prevent the release of the dangerous goods under normal conditions of transport.

Batteries must consist of cells secured within and fully enclosed by a metal casing so constructed and closed as to prevent the release of the dangerous goods under normal conditions of transport.

...

See paragraph 2.2.2 of this report:

- A98 Aerosols, gas cartridges and receptacles, small, containing gas with a capacity not exceeding 50 ml, containing no constituents subject to these Instructions other than a Division 2.2 gas, are not subject to these Instructions when carried as cargo unless their release could cause extreme annoyance or discomfort to crew members so as to prevent the correct performance of assigned duties. The words "not restricted" and the special provision number A98 must be provided on the air waybill when an air waybill is issued.

Corrigendum to UN Model Regulations (Seventeenth revised Edition) ST/SG/AC.10/1/Rev.17/Corr.1:

- A115 (280) This entry applies to articles which are used as lifesaving vehicle air bag inflators, or air bag modules or seat belt pretensioners, and which contain dangerous goods of Class 1 or dangerous goods of other classes and when transported as component parts and when these articles as presented for transport have been tested in accordance with test series 6 (c) of Part I of the UN Manual of Tests and Criteria, with no explosion of the device, no fragmentation of the device casing or pressure ~~vessel receptacle~~, no projection hazard and no thermal effect which would significantly hinder firefighting or other emergency response efforts in the immediate vicinity.

...

TIs UN

See paragraph 2.4.17 of this report:

A117 The first and second sentences of the following special provision were reversed.

~~Wastes infectious substances which can be specified~~ containing category A infectious substances must be assigned to UN 2814 or UN 2900. Wastes transported under UN 3291 are wastes ~~derived from the medical treatment of humans or animals or from bio-research, where there is a relatively low probability that infectious substances are present~~ containing infectious substances in Category B or wastes that are reasonably believed to have a low probability of containing infectious substances. Decontaminated wastes which previously contained infectious substances may be considered as not subject to these Instructions unless the criteria of another class or division are met.

See paragraph 2.2.2 of this report:

A129 (252) Provided the ammonium nitrate remains in solution under all conditions of transport, aqueous solutions of ammonium nitrate, with not more than 0.2 per cent combustible material, in a concentration not exceeding 80 per cent are not subject to these Instructions when carried as cargo.

...

See paragraph 2.4.1 of this report:

A134 (312) Vehicles or machinery powered by a fuel cell engine must be consigned under the entries UN 3166 **Vehicle, fuel cell, flammable gas powered** or UN 3166 **Vehicle, fuel cell, flammable liquid powered**, or UN 3166 **Engine, fuel cell, flammable gas powered** or UN 3166 **Engine, fuel cell, flammable liquid powered**, as appropriate. These entries include hybrid electric vehicles powered by both a fuel cell and an internal combustion engine with wet batteries, sodium batteries ~~or lithium batteries~~, lithium metal batteries or lithium ion batteries, transported with the battery(ies) installed.

Other vehicles which contain an internal combustion engine must be consigned under the entries UN 3166 **Vehicle, flammable gas powered** or UN 3166 **Vehicle, flammable liquid powered**, as appropriate. These entries include hybrid electric vehicles powered by both an internal combustion engine and wet batteries, sodium batteries ~~or lithium batteries~~, lithium metal batteries or lithium ion batteries, transported with the battery(ies) installed.

...

See paragraph 2.3.3 of this report:

A145 Waste aerosols are ~~prohibited~~ forbidden from air transport.

See paragraph 2.4.1 of this report:

A146 (328) This entry applies to fuel cell cartridges including when contained in equipment or packed with equipment. Fuel cell cartridges installed in or integral to a fuel cell system are regarded as contained in equipment. Fuel cell cartridge means an article that stores fuel for discharge into the fuel cell through a valve(s) that controls the discharge of fuel into the fuel cell. Fuel cell cartridges, including when contained in equipment, must be designed and constructed to prevent fuel leakage under normal conditions of transport.

Fuel cell cartridge design types using liquids as fuels must pass an internal pressure test at a pressure of 100 kPa (gauge) without leakage.

TIs UN

Except for fuel cell cartridges containing hydrogen in metal hydride which must be in compliance with A162, each fuel cell cartridge design type, including fuel cell cartridges installed in or integral to a fuel cell system, must be shown to pass a 1.2 metre drop test onto an unyielding surface in the orientation most likely to result in failure of the containment system with no loss of contents.

When lithium metal or lithium ion batteries are contained in the fuel cell system, the consignment must be consigned under this entry and under the appropriate entries for UN 3091 Lithium metal batteries contained in equipment or UN 3481 Lithium ion batteries contained in equipment.

...

- A161 (338) Each fuel cell cartridge transported under this entry and designed to contain a liquefied flammable gas must:
- be capable of withstanding, without leakage or bursting, a pressure of at least two (2) times the equilibrium pressure of the contents at 55°C;
 - not contain more than 200 mL of liquefied flammable gas, ~~with a~~ the vapour pressure of which must not exceed ~~ing~~ 1 000 kPa at 55°C; and
 - pass the hot water bath test prescribed in 6;5.4.1.

...

- A176 (356) Metal hydride storage system(s) installed in ~~conveyances~~ vehicles, vessels or aircraft or in completed ~~conveyance~~ components or intended to be installed in ~~conveyances~~ vehicles, vessels or aircraft must be approved by the appropriate national authority before acceptance for transport. The dangerous goods transport document must include an indication that the package was approved by the appropriate national authority or a copy of the appropriate national authority approval must accompany each consignment.

...

See paragraph 2.3.3 of this report:

- A183 Waste batteries and batteries being shipped for recycling or disposal are ~~prohibited~~ forbidden from air transport unless approved by the appropriate national authority of the State of Origin and the State of the Operator.

See paragraph 2.4.1 of this report:

- A184 (304) This entry may only be used for the transport of non-activated batteries which contain dry potassium hydroxide and which are intended to be activated prior to use by the addition of an appropriate amount of water to the individual cells.

- A185 (360) Vehicles only powered by lithium metal batteries or lithium ion batteries must be consigned under the entry UN 3171 Battery-powered vehicle.

- A186 (361) This entry applies to electric double layer capacitors with an energy storage capacity greater than 0.3 Wh. Capacitors with an energy storage capacity of 0.3 Wh or less are not subject to these Instructions. Energy storage capacity means the energy held by a capacitor, as calculated using the nominal voltage and capacitance. All capacitors to which this entry applies, including capacitors containing an electrolyte that does not meet the classification criteria of any class or division of dangerous goods, must meet the following conditions:

- capacitors not installed in equipment must be transported in an uncharged state. Capacitors installed in equipment must be transported either in an uncharged state or protected against short circuit;
- each capacitor must be protected against a potential short circuit hazard in transport as follows:
 - when a capacitor's energy storage capacity is less than or equal to 10 Wh or when the energy storage capacity of each capacitor in a module is less than or equal to 10 Wh, the capacitor or module must be protected against short circuit or be fitted with a metal strap connecting the terminals; and

TIs UN

ii) When the energy storage capacity of a capacitor or a capacitor in a module is more than 10 Wh, the capacitor or module must be fitted with a metal strap connecting the terminals;

c) capacitors containing dangerous goods must be designed to withstand a 95 kPa pressure differential;

See paragraph 2.4.1 of this report + Corrigendum to UN Model Regulations (Seventeenth revised Edition) ST/SG/AC.10/1/Rev.17/Corr.1:

d) capacitors must be designed and constructed to safely relieve pressure that may build up in use, through a vent or a weak point in the capacitor casing. Any liquid which is released upon venting must be contained by the packaging or by the equipment in which a capacitor is installed; and

See paragraph 2.4.1 of this report:

e) capacitors must be marked with the energy storage capacity in Wh.

Capacitors containing an electrolyte not meeting the classification criteria of any class or division of dangerous goods, including when installed in equipment, are not subject to other provisions of these Instructions.

Capacitors containing an electrolyte meeting the classification criteria of any class or division of dangerous goods, with an energy storage capacity of 10 Wh or less are not subject to other provisions of these Instructions when they are capable of withstanding a 1.2 metre drop test unpackaged on an unyielding surface without loss of contents.

Capacitors containing an electrolyte meeting the classification criteria of any class or division of dangerous goods that are not installed in equipment and with an energy storage capacity of more than 10 Wh are subject to these Instructions.

Capacitors installed in equipment and containing an electrolyte meeting the classification criteria of any class or division of dangerous goods are not subject to other provisions of these Instructions provided the equipment is packaged in a strong outer packaging constructed of suitable material and of adequate strength and design in relation to the packaging's intended use and in such a manner as to prevent accidental functioning of capacitors during transport. Large robust equipment containing capacitors may be offered for transport unpackaged or on pallets when capacitors are afforded equivalent protection by the equipment in which they are contained.

Note.— Capacitors which by design maintain a terminal voltage (e.g. asymmetrical capacitors) do not belong to this entry.

 TIs UN

A187 (362) This entry applies to liquids, pastes or powders, pressurized with a propellant which meets the definition of a gas in 2:2.1.1 and 2:2.1.2 a) or b).

Note.— A chemical under pressure in an aerosol dispenser must be transported under UN 1950.

The following provisions must apply:

a) The chemical under pressure must be classified based on the hazard characteristics of the components in the different states:

i) the propellant;

ii) the liquid; or

iii) the solid.

If one of these components, which can be a pure substance or a mixture, needs to be classified as flammable, the chemical under pressure must be classified as flammable in Division 2.1. Flammable components are flammable liquids and liquid mixtures, flammable solids and solid mixtures or flammable gases and gas mixtures meeting the following criteria:

i) a flammable liquid is a liquid having a flashpoint of not more than 93°C;

ii) a flammable solid is a solid which meets the criteria in 2:4.2.2 of these Instructions;

iii) a flammable gas is a gas which meets the criteria in 2:2.2.1 of these Instructions;

b) gases of Division 2.3 and gases with a subsidiary risk of 5.1 must not be used as a propellant in a chemical under pressure;

c) where the liquid or solid components are classified as dangerous goods of Division 6.1, Packing Groups II or III, or Class 8, Packing Groups II or III, the chemical under pressure must be assigned a subsidiary risk of Division 6.1 or Class 8 and the appropriate UN number must be assigned. Components classified in Division 6.1, Packing Group I, or Class 8, Packing Group I, must not be used for transport under this proper shipping name;

d) in addition, chemicals under pressure with components meeting the properties of: Class 1, explosives; Class 3, liquid desensitized explosives; Division 4.1, self-reactive substances and solid desensitized explosives; Division 4.2, substances liable to spontaneous combustion; Division 4.3, substances which, in contact with water, emit flammable gases; Division 5.1 oxidizing substances; Division 5.2, organic peroxides; Division 6.2, Infectious substances or Class 7, Radioactive material, must not be used for transport under this proper shipping name;

A188 (359) Nitroglycerin solution in alcohol with more than 1 per cent but not more than 5 per cent nitroglycerin must be classified in Class 1 and assigned to UN 0144 if not all the requirements of Packing Instruction 371 are complied with.

See paragraph 2.4.2 of this report:

A189 Except where the defining criteria of another class or division are met, concentrations of formaldehyde solution:

— with less than 25 per cent but not less than 10 per cent formaldehyde must be classified as UN 3334 **Aviation regulated liquid, n.o.s.**; and

— with less than 10 per cent formaldehyde are not subject to these Instructions.

TIs UN

See paragraph 2.4.5 of this report:

A191 Neutron radiation detectors containing non-pressurized boron trifluoride gas in excess of 1 gram and radiation detection systems containing such neutron radiation detectors as components may be transported on cargo aircraft in accordance with these Technical Instructions irrespective of the indication of "forbidden" in columns 12 and 13 of the Dangerous Goods List, provided:

- a) the pressure in each neutron radiation detector must not exceed 105 kPa absolute at 20°C;
- b) the amount of gas must not exceed 12.8 grams per detector and the amount per outer packaging or per radiation detection system must not exceed 51.2 grams;
- c) each neutron radiation detector must be of welded metal construction with brazed metal to ceramic feed through assemblies. They must have a minimum burst pressure of 1 800 kPa;
- d) each neutron radiation detector must be packed in a sealed intermediate plastic liner with sufficient absorbent material to absorb the entire gas contents. Neutron radiation detectors must be packed in strong outer packagings that are capable of withstanding a 1.8 meter drop test without leakage. Radiation detector systems containing neutron radiation detectors must also include absorbent material sufficient to absorb the entire gas contents of the neutron radiation detectors. Absorbent material must be surrounded by a liner or liners, as appropriate. They must be packed in strong outer packagings unless neutron radiation detectors are afforded equivalent protection by the radiation detection system, and
- e) transport in accordance with this special provision need not be noted on the dangerous goods transport document and a packing instruction must not be shown on the transport document. The package must be labelled with "Toxic gas" and "Corrosive" subsidiary risk labels.

When transported as cargo, neutron radiation detectors containing not more than 1 gram of boron trifluoride, including those with solder glass joints, and radiation detection systems containing such detectors where the neutron radiation detectors meet and are packed in accordance with the above conditions, are not subject to these Instructions irrespective of the indication of "forbidden" in columns 10 to 13. The words "not restricted" and the special provision number A191 must be provided on the air waybill when an air waybill is used.

See paragraph 2.4.6 of this report:

A192 Notwithstanding the Division 6.1 subsidiary risk shown in column 4 of Table 3-1, the toxic subsidiary risk label and an indication of this subsidiary risk on the dangerous goods transport document are not required when the manufactured articles contain not more than 5 kg of mercury. Transport in accordance with this special provision must be noted on the dangerous goods transport document.

...

Chapter 4

DANGEROUS GOODS IN LIMITED QUANTITIES

...

4.1 APPLICABILITY

...

4.1.2 Only dangerous goods which are permitted on passenger aircraft and which meet the criteria of the following classes, divisions and packing groups (if appropriate) may be carried under these provisions for dangerous goods in limited quantities:

...

See paragraph 2.4.15 of this report:

Class 8	Packing Groups II and III but excluding UN 2794, UN 2795, UN 2803, UN 2809 and , UN 3028 <u>and UN 3506.</u>
---------	---

...

4.3 QUANTITY LIMITATIONS

4.3.1 The net quantity per package must not exceed the quantity specified in column 11 of Table 3-1 against the packing instruction number identified by the prefix letter "Y" in column 10.

4.3.2 The gross mass per package must not exceed 30 kg.

4.3.3 When different dangerous goods are contained in one outer packaging, the quantities of such dangerous goods must be so limited that:

See paragraph 3.2.12 of DGP/23-WP/2:

- a) for classes other than Classes 2 (except UN 2037, UN 3478 and UN 3479) and 9, the total net quantity in the package does not exceed the value of 1, where "Q" is calculated using the formula:

$$Q = \frac{n_1}{M_1} + \frac{n_2}{M_2} + \frac{n_3}{M_3} + \dots$$

where n_1 , n_2 , etc., are the net quantities of the different dangerous goods and M_1 , M_2 etc., are the maximum net quantities for these different dangerous goods shown in Table 3-1 against the relevant "Y" packing instructions; and

- b) for Classes 2 (except UN 2037, UN 3478 and UN 3479) and 9:
- 1) when packed together without goods of other classes, the gross mass of the package does not exceed 30 kg; or
 - 2) when packed together with goods of other classes, the gross mass of the package does not exceed 30 kg and the total net quantity in the package of goods other than in Classes 2 (except UN 2037, UN 3478 and UN 3479) or 9 does not exceed the value of 1 when calculated according to a) above.
- c) carbon dioxide, solid (dry ice), UN 1845 may be packed together with goods of other classes, provided that the gross mass of the package does not exceed 30 kg. The quantity of dry ice does not need to be taken into account in the calculation of the "Q" value. However, the packaging containing the carbon dioxide, solid (dry ice) and the outer packaging must permit the release of carbon dioxide gas.

4.3.4 Where the different dangerous goods in the outer packaging consist only of those with the same UN number, packing group and physical state (i.e. solid or liquid), the calculation in 4.3.3 a) does not need to be made. However, the total net quantity in the package must not exceed the maximum net quantity according to Table 3-1.

...

4.5 PACKAGE MARKING

4.5.1 Packages containing limited quantities of dangerous goods must be marked as required by the applicable paragraphs of 5;2, except that 5;2.4.4.1 does not apply.

4.5.2 Packages containing limited quantities of dangerous goods and prepared in accordance with this chapter must bear the marking shown in Figure 3-1 below. The marking must be readily visible, legible and able to withstand open weather exposure without a substantial reduction in effectiveness.

— Note. — Packages prepared for transport before 31 December 2010 using the limited quantity “Y” packing instructions from the 2009-2010 Edition of these Instructions may be presented for transport until 31 March 2011 without the mark shown in Figure 3-1. In this case the package must be marked “limited quantity(ies)” or “LTD QTY”.

4.5.3 When packages containing dangerous goods in limited quantities are placed in an overpack, the overpack must be marked with the word “OVERPACK” and the marking required by this chapter, unless the markings representative of all dangerous goods in the overpack are visible.

See paragraph 2.4.16 of this report:

4.6 PACKAGE LABELLING

4.6.1 Packages containing limited quantities must be labeled as required by the applicable paragraphs of 5;3.

4.7 DANGEROUS GOODS TRANSPORT DOCUMENT

4.7.1 The dangerous goods transport document must comply with all the requirements of 5;4.

See paragraph 2.4.13 of this report:

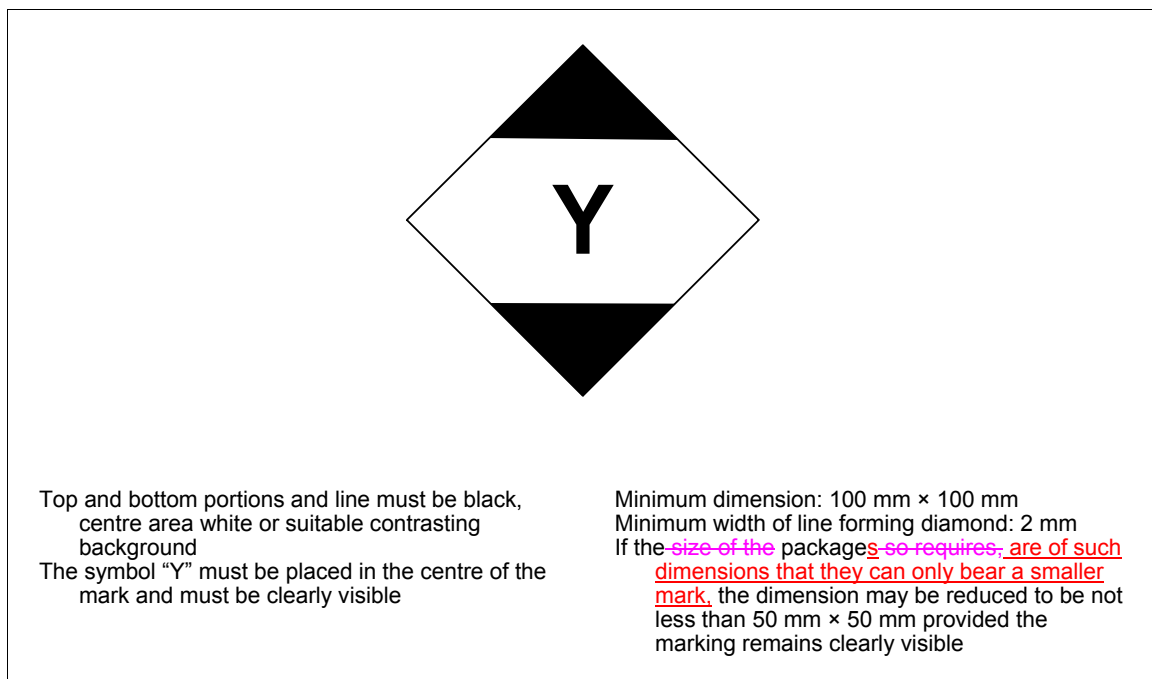


Figure 3-1. Limited quantities mark

Chapter 5

DANGEROUS GOODS PACKED IN EXCEPTED QUANTITIES

Parts of this Chapter are affected by State Variation JP 23; see Table A-1

5.1 EXCEPTED QUANTITIES

5.1.1 Excepted quantities of dangerous goods of certain classes, other than articles, meeting the provisions of this chapter are not subject to any other provisions of these Instructions except for:

...

- f) the loading restriction in 7;2.1; and
- g) the reporting requirements of dangerous goods accidents, incidents and other occurrences in 7;4.4 and 7;4.5.

See paragraph 2.2.2 of this report:

h) the prohibition of dangerous goods in baggage in 8;1.1.

Note.— In the case of radioactive material, the requirements for radioactive material in excepted packages in 1;6.1.5 apply.

5.1.3 Where dangerous goods in excepted quantities for which different codes are assigned are packaged together, the total quantity per outer packaging must be limited to that corresponding to the most restrictive Code.

See paragraph 2.4.1.5 of this report:

5.6 DE MINIMIS QUANTITIES

Dangerous goods assigned to codes E1, E2, E4 or E5 are not subject to these Instructions when carried as cargo provided that:

- a) the maximum net quantity of material per inner packaging is limited to 1 mL for liquids and gases and 1 g for solids;
- b) the provisions of 3;5.2 are met, except that an intermediate packaging is not required if the inner packagings are securely packed in an outer packaging with cushioning material in such a way that, under normal conditions of transport, they cannot break, be punctured, or leak their contents; and for liquid dangerous goods, the outer packaging contains sufficient absorbent material to absorb the entire contents of the inner packagings;
- c) the provisions of 3;5.3 are complied with; and
- d) the maximum net quantity of dangerous goods per outer packaging does not exceed 100 g for solids or 100 mL for liquids and gases.

...

Part 4

PACKING INSTRUCTIONS

INTRODUCTORY NOTES

See paragraph 3.2.16 of DGP/23-WP/2:

Note 1.— Packing groups

For packing purposes, dangerous goods ~~of all classes~~, other than Classes 1, 2 and 7, self-reactive substances of Division 4.1, and Divisions 5.2 and 6.2, have been divided among three packing groups according to the degree of danger they present. The packing groups have the following meanings:

- Packing Group I — Substances presenting high danger
- Packing Group II — Substances presenting medium danger
- Packing Group III — Substances presenting low danger

Some substances in Class 9 and liquids in Division 5.1 have been assigned to packing groups by experience rather than through application of technical criteria. The packing group to which a substance is assigned is listed in Table 3-1. The criteria for the packing groups are given in Part 2, Chapters 3, 4, 5, 6 and 8.

...

See paragraph 3.2.26 of DGP/23-WP/3:

Note 7.— Carriage of oxygen and air with aquatic animals

With the approval of the appropriate authority of the State of Origin, of Destination and of the Operator, for the purpose of providing life support to aquatic animals during transport, ~~a cylinder~~s containing Oxygen compressed, UN 1072 or Air, compressed, UN 1002 may be carried to oxygenate the water in accordance with the provisions of Table S-3-1 and Special Provision A202 (which appear in the Supplement).

...

See paragraph 5.3.1 of this report:

Note 11.— Open external carriage

When dangerous goods are prepared for open external carriage (e.g. suspended from a helicopter or in open external carrying devices), consideration should be given to the type of packaging used and protection of those packagings where necessary from the effects of airflow and weather (e.g. by damage from rain or snow).

...

See paragraph 3.2.19 of DGP/23-WP/2:

1.1.4 The body and the closure of any packaging must be so constructed as to be able to adequately resist the effects of temperature and vibration occurring in normal conditions of transport. The closure device must be so designed that it:

- a) is unlikely that it can be incorrectly or incompletely closed, and must be such that it may be checked easily to determine that it is completely closed; and
- b) remains securely closed during transport.

1.1.4.1 In addition, for inner packagings containing liquids substances, closures must be held securely, tightly and effectively in place by secondary means. Examples of such methods include: adhesive tape, friction sleeves, welding or soldering, positive locking wires, locking rings, induction heat seals and child-resistant closures. When secondary means of

closure cannot be applied ~~to an inner packaging containing liquids~~, the inner packaging must be securely closed and placed in a leakproof liner and then placed in an outer packaging.

...

See paragraph 3.2.12 of DGP/23-WP/3:

1.1.9 Subject to 1.1.8 an outer packaging may contain more than one item of dangerous goods provided that:

...

e) the quantities of different dangerous goods contained in one outer packaging must be such that "Q" does not exceed the value of 1, where "Q" is calculated using the formula:

$$Q = \frac{n_1}{M_1} + \frac{n_2}{M_2} + \frac{n_3}{M_3} + \dots$$

where n_1 , n_2 , etc. are the net quantities of the different dangerous goods and M_1 , M_2 , etc. are the maximum net quantities for these different dangerous goods according to Table 3-1 for passenger or cargo aircraft as applicable. However, the following dangerous goods do not need to be taken into account in the calculation of the "Q" value:

- 1) carbon dioxide, solid (dry ice), UN 1845;
- 2) those where columns 11 and 13 of Table 3-1 indicate "No limit";
- 3) those with the same UN number, packing group, and physical state (i.e. solid or liquid), providing they are the only dangerous goods in the package and the total net quantity does not exceed the maximum net quantity according to Table 3-1.

~~4) those where columns 11 and 13 of Table 3-1 indicate a maximum gross mass per package:~~

~~f) for packages containing dangerous goods where the letter "G" follows the quantity shown in column 11 or 13 of Table 3-1, the gross mass of the completed package does not exceed the lowest applicable gross mass.~~

An outer packaging containing Division 6.2 (Infectious Substances) may contain material for refrigeration, or freezing or packaging material such as absorbent material.

...

See paragraph 3.2.28 of DGP/23-WP/3:

1.1.10 Inner packagings must be so packed, secured or cushioned in an outer packaging in such a way that, under normal conditions of transport, they cannot break, be punctured or leak their contents into the outer packaging. Inner packagings containing liquids must be packaged with their closures upward and placed within outer packagings consistent with the orientation markings prescribed in ~~5;3.2.11 b) 5;3.2.12 b)~~ of these Instructions. Inner packagings that are liable to break or be punctured easily, such as those made of glass, porcelain or stoneware or of certain plastic material, must be secured in outer packagings with suitable cushioning material. Any leakage of the contents must not substantially impair the protective properties of the cushioning material or of the outer packaging.

...

See paragraph 2.5.1 of this report:

1.1.13 ~~Except as provided in 1.1.13.1, C~~combination packagings ~~having inner packagings~~ containing liquid dangerous goods, ~~excluding flammable liquids in inner packagings of 120 mL or less, or infectious substances in primary receptacles not exceeding 50 mL, or hermetically sealed inner packagings each containing not more than 500 mL,~~ must be packed so that the closures on the inner packagings are upward and the upright position of the package must be indicated on it by the "Package orientation" label described in 5;3.2.12 b). The words "This side up" or "This end up" may also be displayed on the top cover of the package.

1.1.13.1 Orientation arrows are not required on outer packagings containing:

a) dangerous goods in inner packagings each containing not more than 120 mL with sufficient absorbent material between the inner and outer packagings to completely absorb the liquid contents;

b) Division 6.2 infectious substances in primary receptacles each containing not more than 50 mL; or

See paragraph 2.5.5 of this report:

c) dangerous goods in gas tight inner packagings such as tubes, bags or vials which are opened by breaking or puncturing. Each inner packaging must not contain more than 500 mL.

The amendment to 1.1.13 proposed in paragraph 3.2.28 of DGP /23-WP/3 was incorporated in the 2011-2012 Edition through Addendum No. 3, Corrigendum No. 2

...

See paragraph 2.5.1 of this report:

1.1.21 Where ice is used as a coolant it must not affect the integrity of the packaging.

...

Chapter 2

GENERAL

...

2.3 Each instruction shows, where applicable, the acceptable single and combination packagings. For combination packagings, tables show the acceptable outer packagings and associated inner packagings with the maximum net quantity permitted in each inner packaging. Where provisions for particular articles or substances apply, a table shows the inner packagings with associated quantity limitations, the permitted quantity per package and, where applicable, an indication if single packagings are permitted. Where appropriate, additional packing requirements are also indicated at the end of a packing instruction. These additional packing requirements may impose a higher standard of packaging than would normally apply to the packing group, or may require specific packaging considerations.

—Note.—To assist shippers in the transition to the new packing instructions that become effective in this edition of these Instructions, packages prepared for transport before 31 December 2010 using packing instructions in the 2009-2010 Edition may be presented for transport until 31 March 2011. When this transitional provision is being used, the shipper must indicate on the dangerous goods transport document the packing instruction number in effect from the 2009-2010 Edition.

Chapter 3

CLASS 1 — EXPLOSIVES

...

3.4 PACKING INSTRUCTIONS

...

See paragraph 2.5.1 of this report:

Packing Instruction 114

a) solid wetted

Inner packagings

Bags
 plastics
 textile
 woven plastics
 Receptacles
 metal
 plastics
wood

Intermediate packagings

Bags
 plastics
 textile, plastic
 coated or lined
 Receptacles
 metal
 plastics
Dividing partitions
wood

Outer packagings

Boxes
 fibreboard (4G)
 natural wood, ordinary (4C1)
 natural wood, with siftproof
 walls (4C2)
other metal (4N)
 plywood (4D)
 reconstituted wood (4F)
 solid plastics (4H2)
 steel (4A)
 Drums
 aluminium, ~~removable head~~
 (1B1, 1B2)
 fibre (1G)
other metal (1N1, 1N2)
 plastics, ~~removable head~~
 (1H1, 1H2)
 plywood (1D)
 steel, ~~removable head~~ (1A1,
 1A2)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

- For UN 0077, 0234, 0235 and 0236, packagings must be lead-free.

See paragraph 2.5.1 of this report and Corrigendum to UN
 Model Regulations (Seventeenth revised Edition)
 ST/SG/AC.10/1/Rev.17/Corr.1:

- For UN 0342, inner packagings are not required when metal (1A1, 1A2 ~~or~~, 1B1, 1B2, 1N1 or 1N2) or plastic (1H1 or 1H2) drums are used as outer packagings.
- Intermediate packagings are not required if leakproof removable head drums are used as the outer packaging.

See paragraph 2.5.1 of this report:

b) solid dry		
<i>Inner packagings</i>	<i>Intermediate packagings</i>	<i>Outer packagings</i>
Bags paper, kraft plastics textile, siftproof woven plastics, siftproof Receptacles fibreboard metal paper plastics wood woven plastics, siftproof	Not necessary	Boxes fibreboard (4G) natural wood, ordinary (4C1) natural wood, with siftproof walls (4C2) plywood (4D) reconstituted wood (4F) Drums aluminium, removable head (1B1, 1B2) fibre (1G) other metal (1N1, 1N2) plastics, removable head (1H1, 1H2) plywood (1D) steel, removable head (1A1, 1A2)
PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS: <ul style="list-style-type: none"> — For UN 0077, 0132, 0234, 0235 and 0236, packagings must be lead-free. — For UN 0508 and 0509, metal packagings must not be used. — For UN 0160 and 0161, when metal drums (<u>1A1, 1A2</u> or 1B1, 1B2, 1N1 or 1N2) are used as the outer packaging, metal packagings must be so constructed that the risk of explosion, by reason of increase in internal pressure from internal or external causes, is prevented. — For UN 0160 and 0161, inner packagings are not required if drums are used as the outer packaging. 		

Packing Instruction 130		
<i>Inner packagings</i>	<i>Intermediate packagings</i>	<i>Outer packagings</i>
Not necessary	Not necessary	Boxes aluminium (4B) expanded plastics (4H1) fibreboard (4G) natural wood, ordinary (4C1) natural wood, with siftproof walls (4C2) other metal (4N) plywood (4D) reconstituted wood (4F) solid plastics (4H2) steel (4A) Drums aluminium, removable head (1B1, 1B2) fibre (1G) other metal (1N1, 1N2) plastics, removable head (1H1, 1H2) plywood (1D) steel, removable head (1A1, 1A2)
...		

Packing Instruction 131

Inner packagings

Bags
 paper
 plastics
 Receptacles
 fibreboard
 metal
 plastics
 wood
 Reels

Intermediate packagings

Not necessary

Outer packagings

Boxes
 aluminium (4B)
 fibreboard (4G)
 natural wood, ordinary (4C1)
 natural wood, with siftproof walls (4C2)
other metal (4N)
 plywood (4D)
 reconstituted wood (4F)
 steel (4A)
 Drums
 aluminium, ~~removable head~~ (1B1, 1B2)
 fibre (1G)
 plastics, ~~removable head~~ (1H1, 1H2)
other metal (1N1, 1N2)
 plywood (1D)
 steel, ~~removable head~~ (1A1, 1A2)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

— For UN 0029, 0267 and 0455, bags and reels must not be used as inner packagings.

Packing Instruction 133

Inner packagings

Receptacles
 fibreboard
 metal
 plastics
 wood
 Trays, fitted with dividing partitions
 fibreboard
 plastics
 wood

Intermediate packagings

Receptacles
 fibreboard
 metal
 plastics
 wood

Outer packagings

Boxes
 aluminium (4B)
 fibreboard (4G)
 natural wood, ordinary (4C1)
 natural wood, with siftproof walls (4C2)
other metal (4N)
 plywood (4D)
 reconstituted wood (4F)
 solid plastics (4H2)
 steel (4A)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

— Receptacles are only required as intermediate packagings when the inner packagings are trays.
 — For UN 0043, 0212, 0225, 0268 and 0306, trays must not be used as inner packagings.

Packing Instruction 134

<i>Inner packagings</i>	<i>Intermediate packagings</i>	<i>Outer packagings</i>
Bags water-resistant Receptacles fibreboard metal plastics wood Sheets fibreboard, corrugated Tubes fibreboard	Not necessary	Boxes aluminium (4B) fibreboard (4G) natural wood, ordinary (4C1) natural wood, with siftproof walls (4C2) other metal (4N) plywood (4D) reconstituted wood (4F) solid plastics (4H2) steel (4A) Drums aluminium, removable head (1B1, 1B2) fibre (1G) plastics, removable head (1H1, 1H2) other metal (1N1, 1N2) plywood (1D) steel, removable head (1A1, 1A2)

Packing Instruction 135

<i>Inner packagings</i>	<i>Intermediate packagings</i>	<i>Outer packagings</i>
Bags paper plastics Receptacles fibreboard metal plastics wood Sheets paper plastics	Not necessary	Boxes aluminium (4B) expanded plastics (4H1) fibreboard (4G) natural wood, ordinary (4C1) natural wood, with siftproof walls (4C2) other metal (4N) plywood (4D) reconstituted wood (4F) solid plastics (4H2) steel (4A) Drums aluminium, removable head (1B1, 1B2) fibre (1G) other metal (1N1, 1N2) plastics, removable head (1H1, 1H2) plywood (1D) steel, removable head (1A1, 1A2)

Packing Instruction 136

Inner packagings

Bags

plastics
textile

Boxes

fibreboard
plastics
wood

Dividing partitions in the
outer packagings

Intermediate packagings

Not necessary

Outer packagings

Boxes

aluminium (4B)
fibreboard (4G)
natural wood, ordinary (4C1)
natural wood, with siftproof walls (4C2)
~~other metal (4N)~~
plywood (4D)
reconstituted wood (4F)
solid plastics (4H2)
steel (4A)

Drums

aluminium, ~~removable head~~ (1B1, 1B2)
fibre (1G)
~~other metal (1N1, 1N2)~~
plastics, ~~removable head~~ (1H1, 1H2)
plywood (1D)
steel, ~~removable head~~ (1A1, 1A2)

Packing Instruction 137

Inner packagings

Bags

plastics

Boxes

fibreboard
~~wood~~

Tubes

fibreboard
metal
plastics

Dividing partitions in the
outer packagings

Intermediate packagings

Not necessary

Outer packagings

Boxes

aluminium (4B)
fibreboard (4G)
natural wood, ordinary (4C1)
natural wood, with siftproof walls (4C2)
~~other metal (4N)~~
plywood (4D)
reconstituted wood (4F)
steel (4A)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

- For UN 0059, 0439, 0440 and 0441, when the shaped charges are packed singly, the conical cavity must face downwards and the package marked "THIS SIDE UP". When the shaped charges are packed in pairs, the conical cavities must face inwards to minimize the jetting effect in the event of accidental initiation.

Packing Instruction 138

Inner packagings

Bags
plastics

Intermediate packagings

Not necessary

Outer packagings

Boxes
aluminium (4B)
fibreboard (4G)
natural wood, ordinary (4C1)
natural wood, with siftproof walls (4C2)
~~other metal (4N)~~
plywood (4D)
reconstituted wood (4F)
solid plastics (4H2)
steel (4A)

Drums
aluminium, ~~removable head~~ (1B1, 1B2)
fibre (1G)
~~other metal (1N1, 1N2)~~
plastics, ~~removable head~~ (1H1, 1H2)
plywood (1D)
steel, ~~removable head~~ (1A1, 1A2)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

— If the ends of the articles are sealed, inner packagings are not necessary.

Packing Instruction 139

Inner packagings

Bags
plastics
Receptacles
fibreboard
metal
plastics
wood
Reels
Sheets
paper
plastics

Intermediate packagings

Not necessary

Outer packagings

Boxes
aluminium (4B)
fibreboard (4G)
natural wood, ordinary (4C1)
natural wood, with siftproof walls (4C2)
~~other metal (4N)~~
plywood (4D)
reconstituted wood (4F)
solid plastics (4H2)
steel (4A)

Drums
aluminium, ~~removable head~~ (1B1, 1B2)
fibre (1G)
~~other metal (1N1, 1N2)~~
plastics, ~~removable head~~ (1H1, 1H2)
plywood (1D)
steel, ~~removable head~~ (1A1, 1A2)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

- For UN 0065, 0102, 0104, 0289 and 0290, the ends of the detonating cord must be sealed, for example by a plug firmly fixed so that the explosive cannot escape. The ends of "**Cord, detonating, flexible**", must be fastened securely.
- For UN 0065 and 0289, inner packagings are not required when they are in coils.

Packing Instruction 140

Inner packagings

Bags
 plastics
 Reels
 Sheets
 paper, kraft
 plastics
Receptacles
wood

Intermediate packagings

Not necessary

Outer packagings

Boxes
 aluminium (4B)
 fibreboard (4G)
 natural wood, ordinary (4C1)
 natural wood, with siftproof walls (4C2)
~~other metal (4N)~~
 plywood (4D)
 reconstituted wood (4F)
 solid plastics (4H2)
 steel (4A)
 Drums
 aluminium, ~~removable head~~ (1B1, 1B2)
 fibre (1G)
~~other metal (1N1, 1N2)~~
 plastics, ~~removable head~~ (1H1, 1H2)
 plywood (1D)
 steel, ~~removable head~~ (1A1, 1A2)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

- If the ends of UN 0105 are sealed, no inner packagings are required.
- For UN 0101, the packaging must be siftproof except when the fuse is covered by a paper tube and both ends of the tube are covered with removable caps.
- For UN 0101, steel or aluminium boxes or drums must not be used.

Packing Instruction 141

Inner packagings

Receptacles
 fibreboard
 metal
 plastics
 wood
 Trays, fitted with dividing partitions
 plastics
 wood
 Dividing partitions in the
 outer packagings

Intermediate packagings

Not necessary

Outer packagings

Boxes
 aluminium (4B)
 fibreboard (4G)
 natural wood, ordinary (4C1)
 natural wood, with siftproof walls (4C2)
~~other metal (4N)~~
 plywood (4D)
 reconstituted wood (4F)
 solid plastics (4H2)
 steel (4A)
 Drums
 aluminium, ~~removable head~~ (1B1, 1B2)
 fibre (1G)
~~other metal (1N1, 1N2)~~
 plastics, ~~removable head~~ (1H1, 1H2)
 plywood (1D)
 steel, ~~removable head~~ (1A1, 1A2)

Packing Instruction 142

<i>Inner packagings</i>	<i>Intermediate packagings</i>	<i>Outer packagings</i>
Bags paper plastics Receptacles fibreboard metal plastics wood Sheets paper Trays, fitted with dividing partitions plastics	Not necessary	Boxes aluminium (4B) fibreboard (4G) natural wood, ordinary (4C1) natural wood, with siftproof walls (4C2) other metal (4N) plywood (4D) reconstituted wood (4F) solid plastics (4H2) steel (4A) Drums aluminium, removable head (1B1, 1B2) fibre (1G) other metal (1N1, 1N2) plastics, removable head (1H1, 1H2) plywood (1D) steel, removable head (1A1, 1A2)

Packing Instruction 143

<i>Inner packagings</i>	<i>Intermediate packagings</i>	<i>Outer packagings</i>
Bags paper, kraft plastics textile textile, rubberized Receptacles fibreboard metal plastics wood Trays, fitted with dividing partitions plastics wood	Not necessary	Boxes aluminium (4B) fibreboard (4G) natural wood, ordinary (4C1) natural wood, with siftproof walls (4C2) other metal (4N) plywood (4D) reconstituted wood (4F) solid plastics (4H2) steel (4A) Drums aluminium, removable head (1B1, 1B2) fibre (1G) other metal (1N1, 1N2) plastics, removable head (1H1, 1H2) plywood (1D) steel, removable head (1A1, 1A2)
PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:		
<ul style="list-style-type: none"> — For UN 0271, 0272, 0415 and 0491, when metal packagings are used, metal packagings must be so constructed that the risk of explosion, by reason of increase in internal pressure from internal or external causes, is prevented. — Instead of the above inner and outer packagings, composite packagings (6HH2) (plastic receptacle with outer solid box) may be used. 		

Chapter 4

CLASS 2 — GASES

Parts of this Chapter are affected by State Variations CA 17, US 6, US 15; see Table A-1

...

4.2 PACKING INSTRUCTIONS

Packing Instruction 200

...

- 4) Gas mixtures containing any of the following gases must not be offered for transport in aluminium alloy cylinders unless approved by the appropriate national authority of the State of Origin and the State of the Operator:

UN 1037 **Ethyl chloride**
 UN 1063 **Methyl chloride**
 UN 1063 **Refrigerant gas R 40**
 UN 1085 **Vinyl bromide, stabilized**
 UN 1086 **Vinyl chloride, stabilized**
 UN 1860 **Vinyl fluoride, stabilized**
 UN 1912 **Methyl chloride and methylene chloride mixture**

- 5) **Keys for the column** "Special packing provisions":

Material compatibility

- a) Aluminium alloy cylinders are forbidden.
 b) Copper valves are forbidden.
 c) Metal parts in contact with the contents must not contain more than 65 per cent copper.
 d) When steel cylinders are used, only those bearing the "H" mark [in accordance with 6.5.2.7.4 p](#)) are permitted.

...

...

Packing Instruction 202

...

- 6) Pressure-relief devices

Every closed cryogenic receptacle, having a nominal capacity in excess of 550 L, must be provided with at least 2 pressure-relief devices. The pressure-relief device must be of the type that will resist dynamic forces including surge.

Closed cryogenic receptacles, having a nominal capacity of 550 L or less, must be provided with at least 1 pressure-relief device, and may in addition have a frangible disc in parallel with the spring loaded device in order to meet the requirements of 6.5.1.3.6.5. The pressure-relief device must be of the type that will resist dynamic forces including surge.

Note.— The pressure-relief devices must meet the requirements of 6.5.1.3.6.4 and 6.5.1.3.6.5.

- 7) Compatibility

Materials used to ensure the leakproofness of the joints or for the maintenance of the closures must be compatible with the contents. In the case of receptacles intended for the transport of oxidizing gases (i.e. with a subsidiary risk of 5.1), these materials must not react with these gases in a dangerous manner.

8) Periodic inspection

The periodic inspection and test frequencies of pressure relief valves must not exceed five years.

See paragraph 2.2.2 of this report:

Note.— Insulated packagings containing refrigerated liquid nitrogen fully absorbed in a porous material are not subject to these Instructions when carried as cargo provided they meet the requirements of Special Provision A152.

Requirements for open cryogenic receptacles

Open cryogenic receptacles must be constructed to meet the following requirements:

...

9. Open cryogenic receptacles must bear the following marks permanently affixed, e.g. by stamping, engraving or etching:

- the manufacturer's name and address;
- the model number or name;
- the serial or batch number;
- the UN number and proper shipping name of gases for which the receptacle is intended;
- the capacity of the receptacle in litres.

Note.— ~~The marking on open cryogenic receptacles will become mandatory with effect from 1 January 2012 for open cryogenic receptacles manufactured after 1 January 2012.~~ The size of the marking must be as set out for cylinders in Part 6.5.2.7.1. Open cryogenic receptacles manufactured prior to 1 January 2012 are not required to be so marked.

10. Open cryogenic receptacles are permitted for nitrogen, argon, krypton, neon and xenon refrigerated liquids.

...

Packing Instruction Y203

This Instruction applies to UN 1950 and 2037.

The requirements of 3;4 must be met.

Single packagings are not permitted.

COMBINATION PACKAGINGS:

INNER:

See paragraph 2.5.2 of this report:

Metal aerosols and non-refillable receptacles containing gas (gas cartridges)

Non-refillable metal aerosols and non-refillable receptacles containing gas (gas cartridges) containing toxic substances must not exceed 120 mL capacity.

All other non-refillable metal aerosols and non-refillable receptacles containing gas (gas cartridges) must not exceed 1 000 mL capacity.

...

...

Packing Instruction 206

Passenger and cargo aircraft for UN 3167, UN 3168 and UN 3169 only

General requirements

Part 4, Chapter 1 requirements must be met, including:

A gas sample may only be accepted for transport as a non-pressurized gas providing it is at a pressure corresponding to ambient atmospheric pressure at the time the containment system is closed and this must not exceed 105 kPa absolute.

See paragraph 3.2.23.1 b) of DGP/23-WP/3 and Corrigendum to UN Model Regulations (Seventeenth revised Edition) ST/SG/AC.10/1/Rev.17/Corr.1:

Cylinders and gas receptacles conforming to the construction, testing and filling requirements approved by the appropriate national authority are permitted.

1) Compatibility requirements

- Substances must be compatible with their packagings as required by 4;1.1.3.

2) Closure requirements

- Closures must meet the requirements of 4;1.1.4.

...

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

...

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

...

See paragraph 3.2.12 of DGP/23-WP/3 and paragraph 2.5.1.3 of this report:

Packing Instruction 214

Cargo aircraft only for UN 3468 only

This Instruction applies to storage systems containing hydrogen absorbed in a metal hydride (UN 3468) individually or when contained in equipment and apparatus when transported on cargo aircraft.

- 1) For metal hydride storage systems, the general packing requirements of 4;4.1 must be met.
- 2) Only cylinders not exceeding 150 L in water capacity and having a maximum developed pressure not exceeding 25 MPa are covered by this packing instruction.
- 3) Metal hydride storage systems meeting the applicable requirements of 6;5 for the construction and testing of cylinders containing gas may be used for the transport of hydrogen only.

- 4) When steel cylinders or composite cylinders with steel liners are used, only those bearing the “H” mark, in accordance with 6;5.2.9 j) are permitted.
- 5) Metal hydride storage systems must meet the service conditions, design criteria, rated capacity, type tests, batch tests, routine tests, test pressure, rated charging pressure and provisions for pressure relief devices for transportable metal hydride storage systems specified in ISO 16111:2008, and their conformity and approval must be assessed in accordance with 6;5.2.5.
- 6) Metal hydride storage systems must be filled with hydrogen at a pressure not exceeding the rated charging pressure shown in the permanent markings on the system as specified in ISO 16111:2008.
- 7) The periodic test requirements for a metal hydride storage system must be in accordance with ISO 16111:2008 and carried out in accordance with 6;5.2.6, and the interval between periodic inspections must not exceed five years.
- 8) Storage systems with a water capacity of less than 1 L must be packaged in rigid outer packagings constructed of suitable material of adequate strength and design in relation to the packaging capacity and its intended use. They must be adequately secured or cushioned so as to prevent damage during normal conditions of transport.
- 9) Maximum net quantity per package for cargo aircraft is 100 kg of metal hydride storage systems, including when such storage systems are packed with equipment or contained in equipment.

See paragraph 2.5.1 of this report:

Packing Instruction 215

Passenger and cargo aircraft for UN 3478 and 3479 only

...

OUTER PACKAGINGS

Boxes

Aluminium (4B)
 Fibreboard (4G)
 Natural wood (4C1, 4C2)
Other metal (4N)
 Plastics (4H1, 4H2)
 Plywood (4D)
 Reconstituted wood (4F)
 Steel (4A)

Drums

Aluminium (1B2)
 Fibre (1G)
 Plastics (1H2)
 Plywood (1D)
 Steel (1A2)

Jerricans

Aluminium (3B2)
 Plastics (3H2)
 Steel (3A2)

Packing Instruction Y215

Limited quantities for UN 3478 and 3479 only

...

OUTER PACKAGINGS

Boxes

Aluminium
 Fibreboard
 Natural wood
Other metal
 Plastics
 Plywood
 Reconstituted wood
 Steel

Drums

Aluminium
 Fibre
 Plastics
 Plywood
 Steel

Jerricans

Aluminium
 Plastics
 Steel

See paragraph 2.5.4 of this report:

Packing Instruction 216

Passenger and cargo aircraft for UN 3478 and 3479 (contained in equipment) only

...

ADDITIONAL PACKING REQUIREMENTS

- Fuel cell cartridges that are contained in equipment must be protected against short circuit and the equipment must be protected against inadvertent operation.
- Equipment must be securely cushioned in the outer packagings.
- Fuel cell systems must not charge batteries during transport.
- On passenger aircraft, each fuel cell system and each fuel cell cartridge must conform to IEC [PAS 62282-6-4 62282-6-100](#) Ed. 1 [\[and Amendment 1\]](#) or a standard approved by the appropriate authority of the State of Origin.

...

...

See paragraph 3.2.23.1 d) of DGP/23-WP/3 and paragraph 2.4.4 of this report:

Packing Instruction 218

Passenger and cargo aircraft for UN 3500, 3501, 3502, 3503, 3504 and 3505 only

General requirements

The general requirements of 4.1 applicable to cylinders must be met. Cylinders, constructed as specified in 6.5 are authorized for the transport of UN 3500, UN 3501, UN 3502, UN 3503, UN 3504 and UN 3505. Cylinders other than UN marked and certified cylinders may be used if the design, construction, testing, approval and markings conform to the requirements of the appropriate national authority of the State in which they are approved and filled. The substances contained must be permitted in cylinders and permitted for air transport according to these Instructions. Cylinders for which prescribed periodic tests have become due must not be charged and offered for transport until such retests have been successfully completed.

Compatibility requirements

- The construction materials of the cylinders and their accessories must be compatible with the contents and must not react to form harmful or dangerous compounds therewith.
- The necessary steps must be taken to prevent dangerous reactions (i.e. polymerization or decomposition) during transport. If necessary, stabilization or addition of an inhibitor may be required.

Periodic inspection

- The maximum test period for periodic inspection of the cylinders must be 5 years.

ADDITIONAL PACKING REQUIREMENTS

- Cylinders must be so filled that at 50°C the non-gaseous phase does not exceed 95% of their water capacity and they are not completely filled at 60°C. When filled, the internal pressure at 65°C must not exceed the test pressure of the cylinders. The vapour pressures and volumetric expansion of all substances in the cylinders must be taken into account.
- Spray application equipment (such as a hose and wand assembly) must not be connected during transport.
- The minimum test pressure must be in accordance with Packing Instruction 200 for the propellant but must not be less than 20 bar.
- Non-refillable cylinders used may have a water capacity in litres not exceeding 1 000 litres divided by the test pressure expressed in bars provided capacity and pressure restrictions of the construction standard comply with ISO 11118:1999, which limits the maximum capacity to 50 litres.

OUTER PACKAGINGS

Boxes

Drums

Jerricans

Strong outer packagings

...

**Chapter 5
CLASS 3 — FLAMMABLE LIQUIDS**

~~Note. Class 3 packing instructions have been replaced with the reformatted packing instructions which appeared in Attachment 4 of the 2009-2010 Edition. Further modifications to these packing instructions are indicated with the customary margin symbols.~~

...

5.1 PACKING INSTRUCTIONS

See paragraph 2.5.1 of this report:

Packing Instructions Y340 – Y344

Limited quantities
Passenger and cargo aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Drums

Jerricans

Aluminium
Fibreboard
Natural wood
Other metal
Plastics
Plywood
Reconstituted wood
Steel

Aluminium
Fibre
Other metal
Plastics
Plywood
Steel

Aluminium
Plastics
Steel

Packing Instructions 350 – 355

Passenger aircraft

...

ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

Packing Group I

See paragraph 3.2.25 of DGP/23-WP/3:

- Inner packagings must be packed with sufficient absorbent material to absorb the entire contents of the inner packagings and placed in a rigid leakproof receptacle before packing in outer packagings.

Packing Group III

- Packagings must meet the Packing Group II performance requirements if the substance has a Class 8 subsidiary risk.

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (<u>1B1</u> , 1B2)	Aluminium (<u>3B1</u> , 3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (<u>3H1</u> , 3H2)
Natural wood (4C1, 4C2)	Other metal (<u>1N1</u> , 1N2)	Steel (<u>3A1</u> , 3A2)
<u>Other metal (4N)</u>	Plastics (<u>1H1</u> , 1H2)	
Plastics (4H1, 4H2)	Plywood (1D)	
Plywood (4D)	Steel (<u>1A1</u> , 1A2)	
Reconstituted wood (4F)		
Steel (4A)		
...		

Packing Instructions 360 – 366

Cargo aircraft only

...

ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

Packing Group I

See paragraph 3.2.25 of DGP/23-WP/3:

- Inner packagings must be packed with sufficient absorbent material to absorb the entire contents of the inner packagings and placed in a rigid leakproof receptacle before packing in outer packagings.

Packing Group III

- Packagings must meet the Packing Group II performance requirements if the substance has a Class 8 subsidiary risk.

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (<u>1B1</u> , 1B2)	Aluminium (<u>3B1</u> , 3B2)
Fibreboard (4G)	Fibre (1G)	Other metal (3N2)
Natural wood (4C1, 4C2)	Other metal (<u>1N1</u> , 1N2)	Plastics (<u>3H1</u> , 3H2)
<u>Other metal (4N)</u>	Plywood (1D)	Steel (<u>3A1</u> , 3A2)
Plastics (4H1, 4H2)	Plastics (<u>1H1</u> , 1H2)	
Plywood (4D)	Steel (<u>1A1</u> , 1A2)	
Reconstituted wood (4F)		
Steel (4A)		
...		

Packing Instruction 370

Passenger and cargo aircraft for UN 3269 (Packing Group II or III) only

See paragraph 2.5.10 of this report:

General requirements

Part 4, Chapter 1 requirements must be met, including:

1) **Compatibility requirements**

- Substances must be compatible with their packagings as required by 4;1.1.3.
- Metal packagings must be corrosion resistant or be protected against corrosion for substances with a Class 8 subsidiary risk.

...

See paragraph 2.5.9 of this report:

COMBINATION PACKAGINGS						SINGLE PACKAGINGS
Packing conditions	Inner packaging (see 6;3.2)	Inner packaging quantity (per receptacle) — for base liquid material	Inner packaging quantity (per receptacle) — for liquid activator	Inner packaging quantity (per receptacle) — for solid activator	Total quantity per package	
Activator (Organic peroxide)	Plastics*	n/a	125 mL	500 g	5 kg	No
	Metal*	n/a	125 mL	500 g		
Base material Class 3 Packing Group II or III	Glass	1.0 L	4.0 L/n/a	4.0 L/n/a		
	Plastics	5.0 L	5.0 L/n/a	5.0 L/n/a		
	Metal	5.0 L	5.0 L/n/a	5.0 L/n/a		
Activator (Organic peroxide)	Plastics*	n/a	125 mL	500 g			10 kg	No
	Metal*	n/a	125 mL	500 g		
Base material Class 3 Packing Group III	Glass	2.5 L	n/a	n/a		
	Plastics	10.0 L	n/a	n/a		
	Metal	10.0 L	n/a	n/a		

*Including tubes

The total quantity of kits per package is to be calculated on a one-to-one basis of their volume, i.e. 1 L equal to 1 kg.

...

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

- Aluminium (4B)
- Fibreboard (4G)
- Natural wood (4C1, 4C2)
- Other metal (4N)
- Plastics (4H1, 4H2)
- Plywood (4D)
- Reconstituted wood (4F)
- Steel (4A)

Drums

- Aluminium (1B1, 1B2)
- Fibre (1G)
- Other metal (1N1, 1N2)
- Plastics (1H1, 1H2)
- Steel (1A1, 1A2)

Jerricans

- Aluminium (3B1, 3B2)
- Plastics (3H1, 3H2)
- Steel (3A1, 3A2)

Packing Instruction Y370

Limited quantities
 Passenger and cargo aircraft for UN 3269 (Packing Group II or III) only

See paragraph 2.5.9 of this report:

...

COMBINATION PACKAGINGS							SINGLE PACKAGINGS	
Packing conditions	Inner packaging (see 6;3.2)	Inner packaging quantity (per receptacle) — for base liquid material	Inner packaging quantity (per receptacle) — for liquid activator	Inner packaging quantity (per receptacle) — for solid activator	Total quantity per package	Total gross mass per package		
Activator (Organic peroxide)	Plastics*	n/a	30 mL	100 g	1 kg	30 kg	No	
	Metal*	n/a	30 mL	100 g				
Base material Class 3 Packing Group II or III	Glass	1.0 L	1.0 L n/a	1.0 L n/a				
	Plastics	1.0 L	1.0 L n/a	1.0 L n/a				
	Metal	1.0 L	1.0 L n/a	1.0 L n/a				
Activator (Organic peroxide)	Plastics*	n/a	30 mL	100 g	5 kg			30 kg	No
	Metal*	n/a	30 mL	100 g				
Base material Class 3 Packing Group III	Glass	2.5 L	n/a	n/a				
	Plastics	5.0 L	n/a	n/a				
	Metal	5.0 L	n/a	n/a				

*Including tubes

The total quantity of kits per package is to be calculated on a one-to-one basis of their volume, i.e. 1 L equal to 1 kg.

...

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium
 Fibreboard
 Natural wood
Other metal
 Plastics
 Plywood
 Reconstituted wood
 Steel

Drums

Aluminium
 Fibre
 Other metal
 Plastics
 Steel

Jerricans

Aluminium
 Plastics
 Steel

Packing Instruction 371

Passenger and cargo aircraft for UN 1204 and UN 3064 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

Packing Instruction 372

Cargo aircraft only for UN 3165 only

General requirements

Part 4, Chapter 1 requirements must be met, including:

1) Compatibility requirements

- Substances must be compatible with their packagings as required by 4;1.1.3.

2) Closure requirements

- Closures must meet the requirements of 4;1.1.4.

ADDITIONAL PACKING REQUIREMENTS

UN 3165 **Aircraft hydraulic power unit fuel tank** (containing a mixture of anhydrous hydrazine and methyl hydrazine) (M86 fuel) and designed for installation as complete units in aircraft are acceptable, subject to either of the following conditions:

Corrigendum to UN Model Regulations (Seventeenth revised Edition) ST/SG/AC.10/1/Rev.17/Corr.1:

- a) the unit must consist of an aluminium pressure ~~vessel receptacle~~ made from tubing and having welded heads. Primary containment of the fuel within this ~~vessel receptacle~~ must consist of a welded aluminium bladder having a maximum internal volume of 46 L. The outer ~~vessel receptacle~~ must have a minimum design gauge pressure of 1 275 kPa and a minimum burst gauge pressure of 2 755 kPa. Each ~~vessel receptacle~~ must be leak-checked during manufacture and before shipment and must be found leakproof. The complete inner unit must be securely packed in non-combustible cushioning material, such as vermiculite, in a strong outer tightly closed metal packaging which will adequately protect all fittings. Maximum quantity of fuel per unit and package is 42 L; or
- b) the unit must consist of an aluminium pressure ~~vessel receptacle~~. Primary containment of the fuel within this ~~vessel receptacle~~ must consist of a welded hermetically sealed fuel compartment with an elastomeric bladder having a maximum internal volume of 46 L. The pressure ~~vessel receptacle~~ must have a minimum design gauge pressure of 2 860 kPa and a minimum burst gauge pressure of 5 170 kPa. Each ~~vessel receptacle~~ must be leak-checked during manufacture and before shipment and must be found leakproof. The complete inner unit must be securely packed in non-combustible cushioning material, such as vermiculite, in a strong outer tightly closed metal packaging which will adequately protect all fittings. Maximum quantity of fuel per unit and package is 42 L.

Note.— This packing instruction is the same as UN packing instruction P301.

Packing Instruction 373

Passenger and cargo aircraft for UN 1228 (Packing Group II or III) only

...

See paragraph 3.2.25 of DGP/23-WP/3:

ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

Glass inner packagings must be packed with sufficient absorbent material to absorb the entire contents of the inner packagings and placed in a rigid leakproof receptacle before packing in outer packagings.

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

...

Packing Instruction Y373

Limited quantities
Passenger and cargo aircraft for UN 1228 (Packing Group III) only

...

COMBINATION PACKAGINGS						SINGLE PACKAGINGS
UN number and proper shipping name	Packing group	Inner packaging (see 6.3.2)	Inner packaging quantity (per receptacle)	Total quantity per package	Total gross mass per package	
UN 1228 Mercaptans, liquid, flammable, toxic, n.o.s.*	III	Glass	0.5 L	1 L	30 kg	No
		Plastics	0.5 L			
		Metal	0.5 L			

See paragraph 2.5.11 of this report:

ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

Glass inner packagings must be packed with sufficient absorbent material to absorb the entire contents of the inner packagings and placed in a rigid leakproof receptacle before packing in outer packagings.

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium	Aluminium	Aluminium
Fibreboard	Fibre	Plastics
Natural wood	Other metal	Steel
<u>Other metal</u>	Plastics	
Plastics	Steel	
Plywood		
Reconstituted wood		
Steel		

Packing Instruction 374

Passenger and cargo aircraft for UN 3473 only

...

OUTER PACKAGINGS

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (1B2)	Steel (3A2)
Fibreboard (4G)	Fibre (1G)	Plastics (3H2)
Natural wood (4C1, 4C2)	Other metal (1N2)	Aluminium (3B2)
<u>Other metal (4N)</u>	Plastics (1H2)	
Plastics (4H1, 4H2)	Plywood (1D)	
Plywood (4D)	Steel (1A2)	
Reconstituted wood (4F)		
Steel (4A)		

Packing Instruction Y374

Limited quantities for UN 3473 only

...

OUTER PACKAGINGS

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium	Aluminium	Aluminium
Fibreboard	Fibre	Plastics
Natural wood	Other metal	Steel
<u>Other metal</u>	Plastics	
Plastics	Plywood	
Plywood	Steel	
Reconstituted wood		
Steel		

See paragraph 2.5.4 of this report:

Packing Instruction 375

Passenger and cargo aircraft for UN 3473 (contained in equipment) only

...

ADDITIONAL PACKING REQUIREMENTS

- Fuel cell cartridges that are contained in equipment must be protected against short circuit and the equipment must be protected against inadvertent operation.
- Equipment must be securely cushioned in the outer packagings.
- Fuel cell systems must not charge batteries during transport.
- On passenger aircraft, each fuel cell system and each fuel cell cartridge must conform to IEC [PAS 62282-6-1 62282-6-100](#) Ed. 1 [\[and Amendment 1\]](#) or a standard approved by the appropriate authority of the State of Origin.

...

...

See paragraph 2.5.1.5 of this report:

Packing Instruction 377

~~Passenger and e~~Cargo aircraft only for Chlorosilanes

General requirements

Part 4, Chapter 1 requirements must be met, including:

1) Compatibility requirements

- Substances must be compatible with their packagings as required by 4;1.1.3.
- Metal packagings must be corrosion resistant or be protected against corrosion.

2) Closure requirements

- Closures must meet the requirements of 4;1.1.4.

UN number	Inner packaging (see 6;3.2)	COMBINATION PACKAGINGS				SINGLE PACKAGINGS	
		Net quantity per inner packaging — passenger	Net quantity per inner packaging — cargo	Total quantity per package — passenger	Total quantity per package — cargo	Passenger	Cargo
UN 1162, UN 1196, UN 1250, UN 1298, UN 1305, UN 2985	Glass	1.0 L	1.0 L	1.0 L	5.0 L	No	5.0 L
	Plastics	Forbidden	Forbidden				
	Steel	1.0 L	5.0 L				

OUTER PACKAGINGS OF COMBINATION PACKAGINGS

<i>Boxes</i>	<i>Drums</i>
Fibreboard (4G)	Fibre (1G)
Natural wood (4C1, 4C2)	Plastics (1H1, 1H2)
Plastics (4H1, 4H2)	Plywood (1D)
Plywood (4D)	Steel (1A1, 1A2)
Reconstituted wood (4F)	
Steel (4A)	

SINGLE PACKAGINGS FOR CARGO AIRCRAFT ONLY

<i>Composites</i>	<i>Cylinders</i>	<i>Drums</i>	<i>Jerricans</i>
Plastic receptacle in steel drum (6HA1)	Steel (as permitted by 4;2.7)	Steel (1A1)	Steel (3A1)

Chapter 6

**CLASS 4 — FLAMMABLE SOLIDS; SUBSTANCES
LIABLE TO SPONTANEOUS COMBUSTION;
SUBSTANCES WHICH, IN CONTACT WITH WATER,
EMIT FLAMMABLE GASES**

~~Note. Class 4 packing instructions have been replaced with the reformatted packing instructions which appeared in Attachment 4 of the 2009-2010 Edition. Further modifications to these packing instructions are indicated with the customary margin symbols.~~

...

6.2 PACKING INSTRUCTIONS

See paragraph 2.5.1 of this report:

Packing Instructions Y440 – Y443

Limited quantities
Passenger and cargo aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium	Aluminium	Aluminium
Fibreboard	Fibre	Plastics
Natural wood	Plastics	Steel
<u>Other metal</u>	Plywood	
Plastics	Other metal	
Plywood	Steel	
Reconstituted wood		
Steel		

Packing Instructions 445 – 446

Passenger aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (<u>1B1</u> , 1B2)	Aluminium (<u>3B1</u> , 3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (<u>3H1</u> , 3H2)
Natural wood (4C1, 4C2)	Other metal (<u>1N1</u> , 1N2)	Steel (<u>3A1</u> , 3A2)
<u>Other metal (4N)</u>	Plastics (<u>1H1</u> , 1H2)	
Plastics (4H1, 4H2)	Plywood (1D)	
Plywood (4D)	Steel (<u>1A1</u> , 1A2)	
Reconstituted wood (4F)		
Steel (4A)		

Packing Instructions 448 – 449

Cargo aircraft only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (<u>1B1</u> , 1B2)	Aluminium (<u>3B1</u> , 3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (<u>3H1</u> , 3H2)
Natural wood (4C1, 4C2)	Other metal (<u>1N1</u> , 1N2)	Steel (<u>3A1</u> , 3A2)
<u>Other metal (4N)</u>	Plastics (<u>1H1</u> , 1H2)	
Plastics (4H1, 4H2)	Plywood (1D)	
Plywood (4D)	Steel (<u>1A1</u> , 1A2)	
Reconstituted wood (4F)		
Steel (4A)		

ADDITIONAL PACKING REQUIREMENTS FOR SINGLE PACKAGINGS

Packing Group III

See paragraph 2.5.7 of this report:

- Packagings must meet the Packing Group II performance requirements.
- Fibre, fibreboard, wood and plywood single packagings must be fitted with a suitable liner.

See paragraph 2.5.1 of this report:

SINGLE PACKAGINGS

<i>Boxes</i>	<i>Composites</i>	<i>Cylinders</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	All (see 6;3.1.18)	See 4;2.7	Aluminium (1B1, 1B2)	Aluminium (3B1, 3B2)
Fibreboard (4G)			Fibre (1G)	Plastics (3H1, 3H2)
Natural wood (4C2)			Other metal (1N1, 1N2)	Steel (3A1, 3A2)
<u>Other metal (4N)</u>			Plastics (1H1, 1H2)	
Plywood (4D)			Plywood (1D)	
Plastics (4H2)			Steel (1A1, 1A2)	
Reconstituted wood (4F)				
Steel (4A)				

Packing Instruction 451

Passenger and cargo aircraft — wetted explosives (Packing Group I)

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B2)
Fibre (1G)
Other metal (1N2)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A2)

Jerricans

Aluminium (3B2)
Other metal (3N2)
Plastics (3H1, 3H2)
Steel (3A2)

Packing Instruction 452

Passenger aircraft for UN 2555, 2556 and 2557 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B2)
Fibre (1G)
Other metal (1N2)
Plastics (1H1, 1H2)
Plywood (1D)

Jerricans

Aluminium (3B2)
Other metal (3N2)
Plastics (3H1, 3H2)
Steel (3A2)

Packing Instruction 453

Cargo aircraft only for UN 2555, 2556 and 2557 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B2)
Fibre (1G)
Other metal (1N2)
Plastics (1H1, 1H2)
Plywood (1D)

Jerricans

Aluminium (3B2)
Other metal (3N2)
Plastics (3H1, 3H2)
Steel (3A2)

ADDITIONAL PACKING REQUIREMENTS FOR SINGLE PACKAGINGS

See paragraph 2.5.7 of this report:

- Packagings must be designed and constructed to prevent the loss of water or alcohol content or the content of the phlegmatizer.
- Packagings must be so constructed and closed so as to avoid an explosive over pressure or pressure build-up of more than 300 kPa (3 bar).
- Fibre, fibreboard, wood and plywood single packagings must be fitted with a suitable liner.

...

See paragraph 2.5.1 of this report:

Packing Instruction 454

Passenger and cargo aircraft for UN 1324 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)*Boxes*

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

* These packagings are permitted only for a maximum of 600 m of film.

Packing Instruction Y454

Limited quantities
Passenger and cargo aircraft for UN 1324 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)*Boxes*

Aluminium
Fibreboard*
Natural wood
Other metal
Plywood
Reconstituted wood
Solid plastic*
Steel

Drums

Aluminium
Fibre*
Other metal

Plastics*
Steel

Jerricans

Aluminium
Plastics*
Steel

Packing Instruction 455

Passenger and cargo aircraft for UN 1944 and 1945 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
 Fibreboard (4G)
 Natural wood (4C1, 4C2)
 Other metal (4N)
 Plastics (4H1, 4H2)
 Plywood (4D)
 Reconstituted wood (4F)
 Steel (4A)

Drums

Aluminium (1B1, 1B2)
 Fibre (1G)
 Other metal (1N1, 1N2)
 Plastics (1H1, 1H2)
 Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
 Plastics (3H1, 3H2)
 Steel (3A1, 3A2)

Packing Instruction Y455

Limited quantities

Passenger and cargo aircraft for UN 1944 and 1945 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium
 Fibreboard
 Natural wood
 Other metal
 Plastics
 Plywood
 Reconstituted wood
 Steel

Drums

Aluminium
 Fibre
 Other metal
 Plastics
 Steel

Jerricans

Aluminium
 Plastics
 Steel

...

Packing Instruction 457

Passenger and cargo aircraft for UN 3241 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
 Fibreboard (4G)
 Natural wood (4C1, 4C2)
 Other metal (4N)
 Plastics (4H1, 4H2)
 Plywood (4D)
 Reconstituted wood (4F)
 Steel (4A)

Drums

Aluminium (1B1, 1B2)
 Fibre (1G)
 Other metal (1N2)
 Plastics (1H1, 1H2)
 Plywood (1D)
 Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
 Plastics (3H1, 3H2)
 Steel (3A1, 3A2)

...

Packing Instruction Y457

Limited quantities
Passenger and cargo aircraft for UN 3241 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium	Aluminium	Aluminium
Fibreboard	Fibre	Plastics
Natural wood	Other metal	Steel
<u>Other metal</u>	Plastics	
Plastics	Steel	
Plywood		
Reconstituted wood		
Steel		

Packing Instruction 458

Passenger and cargo aircraft for UN 3270 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (1B2)	Aluminium (3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (3H2)
Natural wood (4C1, 4C2)	Other metal (1N2)	Steel (3A2)
<u>Other metal (4N)</u>	Plastics (1H2)	
Plastics (4H1, 4H2)	Steel (1A2)	
Plywood (4D)		
Reconstituted wood (4F)		
Steel (4A)		

Packing Instruction Y458

Limited quantities
Passenger and cargo aircraft for UN 3270 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium	Aluminium	Aluminium
Fibreboard	Fibre	Plastics
Natural wood	Other metal	Steel
<u>Other metal</u>	Plastics	
Plastics	Steel	
Plywood		
Reconstituted wood		
Steel		

Packing Instruction 459

Passenger and cargo aircraft — self-reactive substances

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Fibreboard (4G)
Natural wood (4C1, 4C2)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)

Drums

Fibre (1G)
Plastics (1H1, 1H2)
Plywood (1D)

Jerricans

Plastics (3H1, 3H2)

See paragraph 2.5.1 of this report:

Packing Instruction 462 – 463

Passenger aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

...

Packing Instruction 464 – 465

Cargo aircraft only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

...

Packing Instruction 466 – 469

Passenger aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (<u>1B1</u> , 1B2)	Aluminium (<u>3B1</u> , 3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (<u>3H1</u> , 3H2)
Natural wood (4C1, 4C2)	Other metal (<u>1N1</u> , 1N2)	Steel (<u>3A1</u> , 3A2)
<u>Other metal (4N)</u>	Plastics (<u>1H1</u> , 1H2)	
Plastics (4H1, 4H2)	Plywood (1D)	
Plywood (4D)	Steel (<u>1A1</u> , 1A2)	
Reconstituted wood (4F)		
Steel (4A)		

Packing Instruction 470 – 471

Cargo aircraft only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (<u>1B1</u> , 1B2)	Aluminium (<u>3B1</u> , 3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (<u>3H1</u> , 3H2)
Natural wood (4C1, 4C2)	Other metal (<u>1N1</u> , 1N2)	Steel (<u>3A1</u> , 3A2)
<u>Other metal (4N)</u>	Plastics (<u>1H1</u> , 1H2)	
Plastics (4H1, 4H2)	Plywood (1D)	
Plywood (4D)	Steel (<u>1A1</u> , 1A2)	
Reconstituted wood (4F)		
Steel (4A)		

See paragraph 2.5.7 of this report:

ADDITIONAL PACKING REQUIREMENTS FOR SINGLE PACKAGINGS

Packing Group III

- Packagings must meet the Packing Group II performance requirements.
- Fibreboard, wood and plywood single packagings must be fitted with a suitable liner.

See paragraph 2.5.1 of this report:

SINGLE PACKAGINGS

<i>Boxes</i>	<i>Composites</i>	<i>Cylinders</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	All (see 6;3.1.18)	See 4;2.7	Aluminium (1B1, 1B2)	Aluminium (3B1, 3B2)
Fibreboard (4G)			Other metal (1N1, 1N2)	Plastics (3H1, 3H2)
Natural wood (4C2)			Plastics (1H1, 1H2)	Steel (3A1, 3A2)
<u>Other metal (4N)</u>			Steel (1A1, 1A2)	
Plastics (4H2)				
Plywood (4D)				
Reconstituted wood (4F)				
Steel (4A)				

Packing Instruction 472

Passenger and cargo aircraft for UN 1362 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Steel (3A1, 3A2)

Packing Instruction 473

Passenger and cargo aircraft — for UN 1378 and UN 2881 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

...

Packing Instructions Y474 – Y477

Limited quantities
Passenger and cargo aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium
Fibreboard
Natural wood
Other metal
Plastics
Plywood
Reconstituted wood
Steel

Drums

Aluminium
Fibre
Other metal
Plastics
Steel

Jerricans

Aluminium
Plastics
Steel

Packing Instructions 478 – 479

Passenger aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

...

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

...

Packing Instructions 480 – 482

Cargo aircraft only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

...

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

Packing Instructions 483 – 486

Passenger aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

Packing Instructions 487 – 491

Cargo aircraft only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (<u>1B1</u> , 1B2)	Aluminium (<u>3B1</u> , 3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (<u>3H1</u> , 3H2)
Natural wood (4C1, 4C2)	Other metal (<u>1N1</u> , 1N2)	Steel (<u>3A1</u> , 3A2)
<u>Other metal (4N)</u>	Plastics (<u>1H1</u> , 1H2)	
Plastics (4H1, 4H2)	Plywood (1D)	
Plywood (4D)	Steel (<u>1A1</u> , 1A2)	
Reconstituted wood (4F)		
Steel (4A)		

See paragraph 2.5.7 of this report:

ADDITIONAL PACKING REQUIREMENTS FOR SINGLE PACKAGINGS

- Fibreboard, wood and plywood single packagings must be fitted with a suitable liner.

Packing Group III

- Packagings must meet the Packing Group II performance requirements.

...

SINGLE PACKAGINGS FOR PACKING GROUP I

<i>Composites</i>	<i>Cylinders</i>	<i>Drums</i>	<i>Jerricans</i>
All (see 6;3.1.18)	See 4;2.7	Aluminium (1B1) Other metal (1N1) Plastics (1H1) Steel (1A1)	Aluminium (3B1) Plastics (3H1) Steel (3A1)

See paragraph 2.5.1 of this report:

SINGLE PACKAGINGS FOR PACKING GROUPS II AND III ONLY


<i>Boxes</i>	<i>Composites</i>	<i>Cylinders</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	All (see 6;3.1.18)	See 4;2.7	Aluminium (1B1, 1B2)	Aluminium (3B1, 3B2)
Fibreboard (4G)			Other metal (1N1, 1N2)	Plastics (3H1, 3H2)
Natural wood (4C2)			Plastics (1H1, 1H2)	Steel (3A1, 3A2)
<u>Other metal (4N)</u>			Steel (1A1, 1A2)	
Plastics (4H2)				
Plywood (4D)				
Reconstituted wood (4F)				
Steel (4A)				

Packing Instruction 492

Passenger and cargo aircraft for UN 3292 only

...

See paragraph 3.2.12 of DGP/23-WP/3 and editorial amendment to clearly indicate that the packing condition applies to Batteries and not to Cells:

COMBINATION PACKAGINGS				SINGLE PACKAGINGS
UN number and proper shipping name	Packing conditions	Total quantity per package — passenger	Total quantity per package — cargo	
UN 3292 Batteries, containing sodium	Batteries may be offered for transport and transported unpacked or in protective enclosures such as fully enclosed or wooden slatted crates that are not subject to the requirements of Part 6 of these Instructions.	Forbidden	No limit	No limit
UN 3292 Cells, containing sodium		25 kg 	No limit	No

...

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B2)
Fibre (1G)
Other metal (1N2)
Plastics (1H2)
Steel (1A2)

Jerricans

Aluminium (**3B1**, 3B2)
Plastics (**3H1**, 3H2)
Steel (**3A1**, 3A2)

Packing Instruction 493

Passenger aircraft for UN 3399 only

...

See paragraph 3.2.25 of DGP/23-WP/3:

ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

- Glass containers must be packed with sufficient absorbent material to absorb the entire contents of the inner packagings and placed in a rigid leakproof receptacle before packing in outer packagings.
- Packagings must meet the Packing Group II performance requirements.

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (<u>1B1</u> , 1B2)	Aluminium (<u>3B1</u> , 3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (<u>3H1</u> , 3H2)
Natural wood (4C1, 4C2)	Other metal (<u>1N1</u> , 1N2)	Steel (<u>3A1</u> , 3A2)
<u>Other metal (4N)</u>	Plastics (<u>1H1</u> , 1H2)	
Plastics (4H1, 4H2)	Steel (<u>1A1</u> , 1A2)	
Plywood (4D)		
Reconstituted wood (4F)		
Steel (4A)		

...

Packing Instruction 494

Cargo aircraft only for UN 3399

...

See paragraph 3.2.25 of DGP/23-WP/3:

ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

Packing Group I

- Inner packagings must have threaded enclosures and must be surrounded in inert cushioning and absorbent material in a quantity sufficient to absorb the entire contents and enclosed in a leakproof liner, plastic bag or other equally effective means of intermediate leakproof containment.

Packing Group II

- Glass inner packagings must be packed with sufficient absorbent material to absorb the entire contents of the inner packagings and enclosed in a leakproof liner, plastic bag or other equally effective means of intermediate leakproof containment.

Packing Group III

- Packagings must meet the Packing Group II performance requirements.

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (<u>1B1</u> , 1B2)	Aluminium (<u>3B1</u> , 3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (<u>3H1</u> , 3H2)
Natural wood (4C1, 4C2)	Other metal (<u>1N1</u> , 1N2)	Steel (<u>3A1</u> , 3A2)
<u>Other metal (4N)</u>	Plastics (<u>1H1</u> , 1H2)	
Plastics (4H1, 4H2)	Steel (<u>1A1</u> , 1A2)	
Plywood (4D)		
Reconstituted wood (4F)		
Steel (4A)		

Packing Instruction 495

Passenger and cargo aircraft for UN 3476 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium(4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium(1B2)
Fibre (1G)
Other metal (1N2)
Plastics (1H2)
Plywood (1D)
Steel (1A2)

Jerricans

Aluminium (3B2)
Plastics (3H2)
Steel (3A2)

Packing Instruction Y495

Limited quantities for UN 3476 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium
Fibreboard
Natural wood
Other metal
Plastics
Plywood
Reconstituted wood
Steel

Drums

Aluminium
Fibre
Other metal
Plastics
Plywood
Steel

Jerricans

Aluminium
Plastics
Steel

See paragraph 2.5.4 of this report:

Packing Instruction 496

Passenger and cargo aircraft for UN 3476 (contained in equipment) only

...

ADDITIONAL PACKING REQUIREMENTS

- Fuel cell cartridges that are contained in equipment must be protected against short circuit and the equipment must be protected against inadvertent operation.
- Equipment must be securely cushioned in the outer packagings.
- The mass of each fuel cell cartridge must not exceed 1 kg.
- Fuel cell systems must not charge batteries during transport.
- On passenger aircraft, each fuel cell system and each fuel cell cartridge must conform to IEC [PAS 62282-6-4 62282-6-100](#) Ed. 1 [\[and Amendment 1\]](#) or a standard approved by the appropriate authority of the State of Origin.

...

...

Chapter 7

CLASS 5 — OXIDIZING SUBSTANCES; ORGANIC PEROXIDES

~~Note. Class 5 packing instructions have been replaced with the reformatted packing instructions which appeared in Attachment 4 of the 2009-2010 Edition. Further modifications to these packing instructions are indicated with the customary margin symbols.~~

...

7.2 PACKING INSTRUCTIONS

See paragraph 2.5.1 of this report:

Packing Instructions Y540 – Y541

Limited quantities
Passenger and cargo aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium	Aluminium	Aluminium
Fibreboard	Fibre	Plastics
Natural wood	Other metal	Steel
<u>Other metal</u>	Plastics	
Plastics	Steel	
Plywood		
Reconstituted wood		
Steel		

Packing Instructions Y543 – Y546

Limited quantities
Passenger and cargo aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium	Aluminium	Aluminium
Fibreboard	Fibre	Plastics
Natural wood	Other metal	Steel
<u>Other metal</u>	Plastics	
Plastics	Steel	
Plywood		
Reconstituted wood		
Steel		

Packing Instructions 550 – 551

Passenger aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Steel (1A1, 1A2)

Packing Instructions 553 – 555

Cargo aircraft only

...

ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

Packing Group I

See paragraph 3.2.25 of DGP/23-WP/3:

- UN 1873 only glass inner packagings are permitted.
- Inner packagings must be packed with sufficient absorbent material to absorb the entire contents of the inner packagings and placed in a rigid leakproof receptacle before packing in outer packagings.

Packing Group III

- Packagings must meet the Packing Group II performance requirements.

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Steel (1A1, 1A2)

...

Packing Instructions 557 – 559

Passenger aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS FOR PACKING GROUP I

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A1, 1A2)

OUTER PACKAGINGS OF COMBINATION PACKAGINGS FOR PACKING GROUPS II AND III

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

Packing Instructions 561 – 563

Cargo aircraft only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS FOR PACKING GROUP I

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A1, 1A2)

OUTER PACKAGINGS OF COMBINATION PACKAGINGS FOR PACKING GROUPS II AND III ONLY

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

ADDITIONAL PACKING REQUIREMENTS FOR SINGLE PACKAGINGS

See paragraph 2.5.7 of this report:

Fibre, [fibreboard](#), wood and plywood single packagings must be fitted with a suitable liner.

Packing Group III

— Packagings must meet the Packing Group II performance requirements.

SINGLE PACKAGINGS FOR PACKING GROUP I*Drums*

Aluminium (1B1, 1B2)
Other metal (1N1, 1N2)
Steel (1A1, 1A2)

SINGLE PACKAGINGS FOR PACKING GROUPS II AND III

<i>Boxes</i>	<i>Composites</i>	<i>Cylinders</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B) Fibreboard (4G) Natural wood (4C2) Other metal (4N) Plastics (4H2) Plywood (4D) Reconstituted wood (4F) Steel (4A)	All (see 6;3.1.18)	See 4;2.7	Aluminium (1B1, 1B2) Fibre (1G) Other metal (1N1, 1N2) Plastics (1H1, 1H2) Plywood (1D) Steel (1A1, 1A2)	Aluminium (3B1, 3B2) Plastics (3H1, 3H2) Steel (3A1, 3A2)

...

See paragraph 2.5.1 of this report:

Packing Instruction 570

Passenger and cargo aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Fibreboard (4G) Natural wood (4C1, 4C2) Other metal (4N) Plastics (4H1, 4H2) Plywood (4D) Reconstituted wood (4F)	Fibre (1G) Plastics (1H1 , 1H2) Plywood (1D)	Plastics (3H1 , 3H2)

Chapter 8

CLASS 6 — TOXIC AND INFECTIOUS SUBSTANCES

~~Note: Class 6, Division 6.2 packing instructions have been replaced with the reformatted packing instructions which appeared in Attachment 4 of the 2009-2010 Edition. Further modifications to these packing instructions are indicated with the customary margin symbols. Class 6, Division 6.1 packing instructions have not been reformatted.~~

...

8.1 PACKING INSTRUCTIONS

...

See paragraph 2.5.1.6 of this report:

Packing Instruction 622

The general packing requirements of 4;1 except 1.1.20 must be met.

Consignments must be prepared in such a manner that they arrive at their destination in good condition and present no hazard to persons or animals during transport.

Consignments must be packed in steel drums (1A2), aluminium drums (1B2) other metal drums (1N2), plywood drums (1D), fibre drums (1G), plastic drums (1H2), steel jerricans (3A2), aluminium jerricans (3B2), plastic jerricans (3H2), steel boxes (4A), aluminium boxes (4B), wooden boxes (4C1, 4C2), plywood boxes (4D), reconstituted wood boxes (4F) or fibreboard boxes (4G), plastic boxes (4H1, 4H2), other metal boxes (4N). Packagings must meet Packing Group II requirements.

The packaging tests may be those appropriate for solids when there is sufficient absorbent material to absorb the entire amount of liquid present and the packaging is capable of retaining liquids.

In all other circumstances, the packaging tests must be those appropriate for liquids.

Packagings intended to contain sharp objects such as broken glass and needles must be resistant to puncture and retain liquids under the performance test conditions for the packaging.

See paragraph 2.5.1 of this report:

Packing Instructions Y640 – Y642

Limited quantities
Passenger and cargo aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium	Aluminium	Aluminium
Fibreboard	Fibre	Plastics
Natural wood	Other metal	Steel
<u>Other metal</u>	Plastics	
Plastics	Steel	
Plywood		
Reconstituted wood		
Steel		

...

Packing Instructions Y644 – Y645

Limited quantities
Passenger and cargo aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium
Fibreboard
Natural wood
Other metal
Plastics
Plywood
Reconstituted wood
Steel

Drums

Aluminium
Fibre
Other metal
Plastics
Steel

Jerricans

Aluminium
Plastics
Steel

...

Packing Instructions 651 – 655

Passenger aircraft

...

See paragraph 3.2.25 of DGP/23-WP/3:

ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

Packing Group I

- Inner packagings must be packed with sufficient absorbent material to absorb the entire contents of the inner packagings and placed in a rigid leakproof receptacle before packing in outer packagings.

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

...

Packing Instructions 657 – 663

Cargo aircraft only

...

See paragraph 3.2.25 of DGP/23-WP/3:

ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

Packing Group I

- Inner packagings must be packed with sufficient absorbent material to absorb the entire contents of the inner packagings and placed in a rigid leakproof receptacle before packing in outer packagings.

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

...

Packing Instructions 665 – 670

Passenger aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

ADDITIONAL PACKING REQUIREMENTS FOR SINGLE PACKAGINGS

See paragraph 2.5.7 of this report:

Fibre, fibreboard, wood and plywood single packagings must be fitted with a suitable liner.

See paragraph 2.5.1 of this report:

SINGLE PACKAGINGS FOR PACKING GROUP III (PI 670)

<i>Bags</i>	<i>Boxes</i>	<i>Composites</i>	<i>Cylinders</i>	<i>Drums</i>	<i>Jerricans</i>
Paper (5M2)	Aluminium (4B)	All (see	See 4;2.7	Aluminium (1B1,	Aluminium (3B1,
Plastic film (5H4)	Fibreboard (4G)	6;3.1.18)		1B2)	3B2)
Textile (5L3)	Natural wood (4C2)			Fibre (1G)	Plastics (3H1,
Woven plastics	<u>Other metal (4N)</u>			Other metal (1N1,	3H2)
(5H3)	Plastics (4H2)			1N2)	Steel (3A1, 3A2)
	Plywood (4D)			Plastics (1H1,	
	Reconstituted wood			1H2)	
	(4F)			Plywood (1D)	
	Steel (4A)			Steel (1A1, 1A2)	

Packing Instructions 672 – 677

Cargo aircraft only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (<u>1B1</u> , 1B2)	Aluminium (<u>3B1</u> , 3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (<u>3H1</u> , 3H2)
Natural wood (4C1, 4C2)	Other metal (<u>1N1</u> , 1N2)	Steel (<u>3A1</u> , 3A2)
<u>Other metal (4N)</u>	Plastics (<u>1H1</u> , 1H2)	
Plastics (4H1, 4H2)	Steel (<u>1A1</u> , 1A2)	
Plywood (4D)		
Reconstituted wood (4F)		
Steel (4A)		

ADDITIONAL PACKING REQUIREMENTS FOR SINGLE PACKAGINGS

See paragraph 2.5.7 of this report:

Fibre, fibreboard, wood and plywood single packagings must be fitted with a suitable liner.

See paragraph 2.5.1 of this report:

...

SINGLE PACKAGINGS FOR PACKING GROUPS II AND III ONLY

<i>Boxes</i>	<i>Composites</i>	<i>Cylinders</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B) Fibreboard (4G) Natural wood (4C2) <u>Other metal (4N)</u> Plastics (4H2) Plywood (4D) Reconstituted wood (4F) Plastics (4H2) Steel (4A)	All (see 6;3.1.18)	See 4;2.7	Aluminium (1B1, 1B2) Fibre (1G) Other metal (1N1, 1N2) Plastics (1H1, 1H2) Plywood (1D) Steel (1A1, 1A2)	Aluminium (3B1, 3B2) Plastics (3H1, 3H2) Steel (3A1, 3A2)

SINGLE PACKAGINGS FOR PACKING GROUP III (PI 677 only)

<i>Bags</i>	<i>Boxes</i>	<i>Composites</i>	<i>Cylinders</i>	<i>Drums</i>	<i>Jerricans</i>
Paper (5M2) Plastic film (5H4) Textile (5L3) Woven plastics (5H3)	Aluminium (4B) Fibreboard (4G) Natural wood (4C2) <u>Other metal (4N)</u> Plastics (4H2) Plywood (4D) Reconstituted wood (4F) Steel (4A)	All (see 6;3.1.18)	See 4;2.7	Aluminium (1B1, 1B2) Fibre (1G) Other metal (1N1, 1N2) Plastics (1H1, 1H2) Plywood (1D) Steel (1A1, 1A2)	Aluminium (3B1, 3B2) Plastics (3H1, 3H2) Steel (3A1, 3A2)

Packing Instruction 679

Cargo aircraft only for UN 1700, 2016 and 2017 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>
Aluminium (4B) Fibreboard (4G) Natural wood (4C1, 4C2) <u>Other metal (4N)</u> Plastics (4H2) Plywood (4D) Reconstituted wood (4F) Steel (4A)	Aluminium (<u>1B1</u> , 1B2) Fibre (1G) Other metal (<u>1N1</u> , 1N2) Plastics (<u>1H1</u> , 1H2) Plywood (1D) Steel (<u>1A1</u> , 1A2)

Packing Instruction 680

Passenger and cargo aircraft for UN 1888 only

...

See paragraph 3.2.25 of DGP/23-WP/3:

ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

- Inner packagings must be packed with sufficient absorbent material to absorb the entire contents of the inner packagings and placed in a rigid leakproof receptacle before packing in outer packagings.

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

...

Packing Instruction Y680

Limited quantities
Passenger and cargo aircraft for UN 1888 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium
Fibreboard
Natural wood
Other metal
Plastics
Plywood
Reconstituted wood
Steel

Drums

Aluminium
Fibre
Other metal
Plastics
Steel

Jerricans

Aluminium
Plastics
Steel

See paragraph 2.5.1.5 of this report:

Packing Instruction 681

~~Passenger and e~~Cargo aircraft only for Chlorosilanes

General requirements

Part 4, Chapter 1 requirements must be met, including:

1) Compatibility requirements

- Substances must be compatible with their packagings as required by 4;1.1.3.
- Metal packagings must be corrosion resistant or be protected against corrosion.

2) Closure requirements

- Closures must meet the requirements of 4;1.1.4.

COMBINATION PACKAGINGS						SINGLE PACKAGINGS	
UN number	Inner packaging (see 6;3.2)	Net quantity per inner packaging — passenger	Net quantity per inner packaging — cargo	Total quantity per package — passenger	Total quantity per package — cargo	Passenger	Cargo
UN 3361, UN 3362	Glass	1.0 L	1.0 L	1.0 L	30.0 L	No	30.0 L
	Plastics	Forbidden	Forbidden				
	Steel	1.0 L	5.0 L				

OUTER PACKAGINGS OF COMBINATION PACKAGINGS

Boxes

Fibreboard (4G)
Natural wood (4C1, 4C2)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Fibre (1G)
Plastics (~~1H1~~, 1H2)
Plywood (1D)
Steel (~~1A1~~, 1A2)

SINGLE PACKAGINGS ~~FOR CARGO AIRCRAFT ONLY~~

Composites

Plastic receptacle in steel drum (6HA1)

Cylinders

Steel (as permitted by 4;2.7)

Drums

Steel (1A1)

Jerricans

Steel (3A1)

...

Chapter 10

CLASS 8 — CORROSIVE SUBSTANCES

~~Note. Class 8 packing instructions have been replaced with the reformatted packing instructions which appeared in Attachment 4 of the 2009-2010 Edition. Further modifications to these packing instructions are indicated with the customary margin symbols.~~

10.1 PACKING INSTRUCTIONS

...

Packing Instructions Y840 – Y841

Limited quantities
Passenger and cargo aircraft

...

See paragraph 2.5.6 of this report:

ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

Packing Group II

~~— Glass inner packagings must be packed with sufficient absorbent material to absorb the entire contents of the inner packagings and placed in a compatible and rigid intermediate packaging before packing in outer packagings.~~

Corrigendum to UN Model Regulations (Seventeenth revised Edition) ST/SG/AC.10/1/Rev.17/Corr.1:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium	Aluminium	Aluminium
Fibreboard	Fibre	Plastics
Natural wood	Other metal	Steel
<u>Other metal</u>	Plastics	
Plastics	Steel	
Plywood		
Reconstituted wood		
Steel		

See paragraph 2.5.1 of this report:

Packing Instructions Y843 – Y845

Limited quantities
Passenger and cargo aircraft

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium	Aluminium	Aluminium
Fibreboard	Fibre	Plastics
Natural wood	Other metal	Steel
<u>Other metal</u>	Plastics	
Plastics	Steel	
Plywood		
Reconstituted wood		
Steel		

Packing Instructions 850 – 852

Passenger aircraft

ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

Packing Group I

See paragraph 3.2.25 of DGP/23-WP/3:

- Inner packagings must be packed with sufficient absorbent material to absorb the entire contents of the inner packagings and placed in a rigid leakproof receptacle before packing in outer packagings.

Packing Group III

- Packagings must meet the Packing Group II performance requirements.

See paragraph 2.5.1 of this report and Corrigendum to UN Model Regulations (Seventeenth revised Edition) ST/SG/AC.10/1/Rev.17/Corr.1:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (<u>1B1</u> , 1B2)	Aluminium (<u>3B1</u> , 3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (<u>3H1</u> , 3H2)
Natural wood (4C1, 4C2)	Other metal (<u>1N1</u> , 1N2)	Steel (<u>3A1</u> , 3A2)
<u>Other metal (4N)</u>	Plastics (<u>1H1</u> , 1H2)	
Plastics (4H1, 4H2)	Steel (<u>1A1</u> , 1A2)	
Plywood (4D)		
Reconstituted wood (4F)		
Steel (4A)		

See paragraph 2.5.1 of this report:

Packing Instructions 854 – 856

Cargo aircraft only

...

ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

Packing Group I

See paragraph 3.2.25 of DGP/23-WP/3:

- Inner packagings must be packed with sufficient absorbent material to absorb the entire contents of the inner packagings and placed in a rigid leakproof receptacle before packing in outer packagings.

Packing Group III

- Packagings must meet the Packing Group II performance requirements.

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
 Fibreboard (4G)
 Natural wood (4C1, 4C2)
Other metal (4N)
 Plastics (4H1, 4H2)
 Plywood (4D)
 Reconstituted wood (4F)
 Steel (4A)

Drums

Aluminium (1B1, 1B2)
 Fibre (1G)
 Other metal (1N1, 1N2)
 Plastics (1H1, 1H2)
 Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
 Plastics (3H1, 3H2)
 Steel (3A1, 3A2)

...

Packing Instructions 858 – 860

Passenger aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
 Fibreboard (4G)
 Natural wood (4C1, 4C2)
Other metal (4N)
 Plastics (4H1, 4H2)
 Plywood (4D)
 Reconstituted wood (4F)
 Steel (4A)

Drums

Aluminium (1B1, 1B2)
 Fibre (1G)
 Other metal (1N1, 1N2)
 Plastics (1H1, 1H2)
 Plywood (1D)
 Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
 Plastics (3H1, 3H2)
 Steel (3A1, 3A2)

Packing Instructions 862 – 864

Cargo aircraft only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

ADDITIONAL PACKING REQUIREMENTS FOR SINGLE PACKAGINGS

— Fibre, wood and plywood single packagings must be fitted with a suitable liner.

SINGLE PACKAGINGS FOR PACKING GROUP I

Composites

All (see 6;3.1.18)

Cylinders

See 4;2.7

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

SINGLE PACKAGINGS FOR PACKING GROUPS II AND III ONLY

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C2)
Other metal (4N)
Plastics (4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Composites

All (see 6;3.1.18)

Cylinders

See 4;2.7

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

Packing Instruction 866

Cargo aircraft only for UN 2028 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B2)
Fibre (1G)
Other metal (1N2)
Plastics (1H2)
Steel (1A2)

Packing Instruction 867

Passenger and cargo aircraft for UN 2803 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Steel (1A1, 1A2)

...

Packing Instruction 868

Passenger and cargo aircraft for UN 2809 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Steel (1A1, 1A2)

...

See paragraph 2.4.15 of this report:

Packing Instruction 869

Passenger and cargo aircraft for UN ~~2809~~ 3506 contained in manufactured articles only

General requirements

Part 4, Chapter 1 requirements must be met, including:

1) Compatibility requirements

- Substances must be compatible with their packagings as required by 4;1.1.3.
- Metal packagings must be corrosion resistant or be protected against corrosion.

2) Closure requirements

- Closures must meet the requirements of 4;1.1.4.

COMBINATION PACKAGINGS					
<i>UN number and proper shipping name</i>	<i>Packing conditions</i>		<i>Total/Net quantity* per package — passenger</i>	<i>Total/Net quantity* per package — cargo</i>	SINGLE PACKAGINGS
UN 2809 3506 Mercury contained in manufactured articles	Manufactured articles or apparatuses of which metallic mercury is a component part, such as manometers, pumps, thermometers, and switches.	Must have sealed inner liners or bags of strong leakproof and puncture-resistant material impervious to mercury which will prevent the escape of mercury from the package irrespective of its position. — <i>Note.</i> — <i>Mercury switches and relays are excepted from the requirement for a sealed inner liner or bag providing they are of the totally enclosed leakproof type in sealed metal or plastic units.</i>	No limit	No limit	No
	Electron tubes, mercury vapour tubes (tubes with less than a total net quantity of 450 g of mercury).	Tubes must be packed in strong outer packagings with all seams and joints sealed with self-adhesive, pressure-sensitive tape which will prevent the escape of mercury from the package. — <i>Note.</i> — <i>Tubes with more than 450 g of mercury must be packaged according to the above instructions for manufactured articles or apparatuses.</i>			

	<p>Electron tubes which do not contain more than 5 g of mercury each and which are packed in the manufacturer's original packagings, may be accepted up to a total net quantity of 30 g of mercury per package;</p> <p>or</p> <p>Tubes which are completely jacketed in sealed leakproof metal cases may be accepted in the manufacturer's original packagings.</p>	<p>May be excepted if packed in the manufacturer's original packagings.</p>			
--	---	---	--	--	--

* For the purposes of Part 5:4.1.5.1 the "net quantity" shown on the dangerous goods transport document is the net mass of the manufactured articles in each package. Thermometers, switches and relays, each containing a total quantity of not more than 15 g of mercury, are excepted from the requirements of these Instructions if they are installed as an integral part of a machine or apparatus and so fitted that shock or impact damage, leading to leakage of mercury, is unlikely to occur under conditions normally incident to transport.

ADDITIONAL PACKING REQUIREMENTS

— Manufactured articles or apparatuses of which metallic mercury is a component part, such as manometers, pumps, thermometers, and switches must be packed in sealed inner liners or bags of strong leakproof and puncture-resistant material impervious to mercury which will prevent the escape of mercury from the package irrespective of its position before being packed in outer packagings.

Note.— Mercury switches and relays are excepted from the requirement for a sealed inner liner or bag providing they are of the totally enclosed leakproof type in sealed metal or plastic units.

— Electron tubes, mercury vapour tubes (tubes with less than a total net quantity of 450 g of mercury) must be packed in strong outer packagings with all seams and joints sealed with self-adhesive, pressure-sensitive tape which will prevent the escape of mercury from the package.

Note.— Tubes with 450 g of mercury or more must be packaged according to the requirements for manufactured articles or apparatuses (above).

— Electron tubes which are packed in sealed leakproof metal cases may be shipped in the manufacturer's original packagings.

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Drums

Jerricans

Strong outer packagings

CONSIGNMENT PROCEDURES

For electron tubes, mercury vapour tubes and similar tubes, the shipper must indicate the quantity of mercury on the dangerous goods transport document.

See paragraph 3.2.12 and 3.2.29 of DGP/23-WP/3:

Packing Instruction 870				
Passenger and cargo aircraft for UN 2794 and 2795 only				
...				
COMBINATION PACKAGINGS				SINGLE PACKAGINGS
<i>UN number and proper shipping name</i>	<i>Packing conditions</i>	<i>Total quantity per package — passenger</i>	<i>Total quantity per package — cargo</i>	
UN 2794 Batteries, wet, filled with acid UN 2795 Batteries, wet, filled with alkali	Batteries must be placed in an acid/alkali-proof liner of sufficient strength and adequately sealed to positively preclude leakage in the event of spillage. The batteries must be packed so that the fill openings and vents, if any, are upward; they must be incapable of short-circuiting and be securely cushioned in the packagings. <u>The upright position of the package must be indicated on it by "Package orientation" labels (Figure 5-26) as required by 5.3. The words "This side up" or "This end up" may also be displayed on the top of the package.</u> <i>Batteries installed in equipment</i> If batteries are shipped as an integral component of assembled equipment, they must be securely installed and fastened in an upright position and protected against contact with other articles so as to prevent short circuits. Batteries must be removed and packed according to this packing instruction if the assembled equipment is likely to be carried in other than an upright position.	30 kg ☺	No limit	Unpackaged batteries No
...				

See paragraph 3.2.12 of DGP/23-WP/3:

Packing Instruction 871				
Passenger and cargo aircraft for UN 3028 only				
...				
COMBINATION PACKAGINGS				SINGLE PACKAGINGS
<i>UN number and proper shipping name</i>	<i>Packing conditions</i>	<i>Total quantity per package — passenger</i>	<i>Total quantity per package — cargo</i>	
UN 3028 Batteries, dry, containing potassium hydroxide solid	The batteries must be securely cushioned in the packagings.	25 kg ☺	230 kg ☺	No
...				

See paragraph 2.5.1 of this report:

Packing Instruction 873		
Passenger and cargo aircraft for UN 3477		
...		
OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)		
<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium(4B)	Aluminium(1B2)	Aluminium (3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (3H2)
Natural wood (4C1, 4C2)	Other metal (1N2)	Steel (3A2)
<u>Other metal (4N)</u>	Plastics (1H2)	
Plastics (4H2)	Plywood (1D)	
Plywood (4D)	Steel (1A2)	
Reconstituted wood (4F)		
Steel (4A)		

Packing Instruction Y873		
Limited quantities for UN 3477 only		
...		
OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)		
<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium	Aluminium	Aluminium
Fibreboard	Fibre	Plastics
Natural wood	Other metal	Steel
<u>Other metal</u>	Plastics	
Plastics	Plywood	
Plywood	Steel	
Reconstituted wood		
Steel		

See paragraph 2.5.4 of this report:

Packing Instruction 874
Passenger and cargo aircraft for UN 3477 (contained in equipment) only
...
ADDITIONAL PACKING REQUIREMENTS
— Fuel cell cartridges that are contained in equipment must be protected against short circuit and the equipment must be protected against inadvertent operation.
— Equipment must be securely cushioned in the outer packagings.
— The mass of each fuel cell cartridge must not exceed 1 kg.
— Fuel cell systems must not charge batteries during transport.
— On passenger aircraft, each fuel cell system and each fuel cell cartridge must conform to IEC PAS 62282-6-1 62282-6-100 Ed. 1 [and Amendment 1] or a standard approved by the appropriate authority of the State of Origin.
...
...

See paragraph 2.5.1 of this report:

Packing Instruction 876

Cargo aircraft only for Chlorosilanes

...
ÖUTER PACKAGINGS OF COMBINATION PACKAGINGS

Boxes

Fibreboard (4G)
Natural wood (4C1, 4C2)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Fibre (1G)
Plastics (1H1, 1H2)
Plywood (1D)
Steel (1A1, 1A2)

SINGLE PACKAGINGS FOR CARGO AIRCRAFT ONLY

Composites

Plastic receptacle in steel drum (6HA1)

Cylinders

Steel (as permitted by 4;2.7)

Drums

Steel (1A1)

Jerricans

Steel (3A1)

Chapter 11

CLASS 9 — MISCELLANEOUS DANGEROUS GOODS

~~Note. — Class 9 packing instructions have been replaced with the reformatted packing instructions which appeared in Attachment 4 of the 2009-2010 Edition. Further modifications to these packing instructions are indicated with the customary margin symbols.~~

...

See paragraph 2.2.2 of this report:

Packing Instruction 953

Passenger and cargo aircraft for UN 2807 only

<i>UN number and proper shipping name</i>	<i>Quantity — passenger</i>	<i>Quantity — cargo</i>
UN 2807 Magnetized material	No limit	No limit

Magnetized materials with field strengths causing a compass deflection of more than 2 degrees at a distance of 2.1 m but not more than 2 degrees at a distance of 4.6 m (equivalent to 0.418 A/m or 0.00525 Gauss measured at a distance of 4.6 m) are not subject to any other requirements in these Instructions when carried as cargo except for the following:

- a) the shipper must make prior arrangements with the operator identifying the magnetized material. The dangerous goods transport document requirements of Part 5;4 are not applicable provided alternative written or electronic documentation includes the words "magnetized material" in association with the description of the goods;
- b) the package must bear the magnetized material handling label;
- c) the operator must stow the packaged magnetized material in accordance with 7;2.10; and
- d) the incident reporting requirements of 7;4.4 must be met.

Magnetized material with a field strength sufficient to cause a compass deflection of more than 2 degrees at a distance of 4.6 m may only be transported with the prior approval of the appropriate authority of the State of Origin and the State of the Operator.

See paragraph 3.2.18 of DGP/23-WP/2:

Packing Instruction 954

Passenger and cargo aircraft for UN 1845 only

...

- c) the dangerous goods transport document requirements of 5;4 are not applicable provided alternative written documentation is provided describing the contents. The information on the document must be shown in the location provided for the description of the goods. Where an agreement exists with the operator, the shipper may provide the information by electronic data processing (EDP) or electronic data interchange (EDI) techniques. The information required is as follows and should be shown in the following order:

1) UN 1845;

2) **Carbon dioxide, solid or Dry ice;**

3) the number of packages and the net quantity of dry ice in each package; and

d) the net mass of the **Carbon dioxide, solid or Dry ice** must be marked on the outside of the package; and

~~e) the information must be included with the description of the goods.~~

...

Packing Instruction 955

Passenger and cargo aircraft for UN 2990 and UN 3072 only

...

ADDITIONAL PACKING REQUIREMENTS

...

Passenger restraint systems consisting of a cylinder charged with a non-liquefied, non-flammable compressed gas and no more than two actuating cartridges per passenger restraint system that meet the requirements of the State of Manufacture must be packed in strong outer packagings so they cannot be accidentally activated.

See paragraph 2.5.1.8 of this report:

Life-saving appliances packed in strong rigid outer packagings with a total maximum gross mass of 40 kg, containing no dangerous goods other than Division 2.2 compressed or liquefied gases with no subsidiary risk in receptacles with a capacity not exceeding 120 mL, installed solely for the purpose of the activation of the appliance, are not subject to these Instructions when carried as cargo.

Life-saving appliances may also include articles and substances not subject to these Instructions which are an integral part of the appliance.

Packing Instruction 956

Passenger and cargo aircraft for UN 1841, UN 1931, UN 3432, UN 2969, UN 3077, UN 3152 and UN 3335 only

...

See paragraph 3.2.11 of DGP/23-WP/3:

COMBINATION PACKAGINGS					SINGLE PACKAGINGS	
UN number and proper shipping name	Inner packaging (see 6;3.2)	Inner packaging quantity (per receptacle)	Total quantity per package — passenger	Total quantity per package — cargo	Quantity — passenger	Quantity — cargo
...						
UN 3335 Aviation regulated solid, n.o.s.	Glass	10.0 kg				
	Fibre	50.0 kg				
	Metal	50.0 kg	100 kg	200 kg	100 kg	200 kg
	Paper bag	50.0 kg	400 kg	400 kg	400 kg	400 kg
	Plastics	50.0 kg				
	Plastic bag	50.0 kg				
...						

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (**1B1**, 1B2)
Fibre (1G)
Other metal (**1N1**, 1N2)
Plastics (**1H1**, 1H2)
Steel (**1A1**, 1A2)

Jerricans

Aluminium (**3B1**, 3B2)
Plastics (**3H1**, 3H2)
Steel (**3A1**, 3A2)

ADDITIONAL PACKING REQUIREMENTS FOR SINGLE PACKAGINGS

See paragraph 2.5.7 of this report:

— Fibre, **fibreboard**, wood and plywood single packagings must be fitted with a suitable liner.

See paragraph 2.5.1 of this report:

SINGLE PACKAGINGS

<i>Bags</i>	<i>Boxes</i>	<i>Composites</i>	<i>Cylinders</i>	<i>Drums</i>	<i>Jerricans</i>
Paper (5M2) Plastic film (5H4) Textile (5L3) Woven plastics (5H3)	Aluminium (4B) Fibreboard (4G) Natural wood (4C2) <u>Other metal (4N)</u> Plastics (4H2) Plywood (4D) Reconstituted wood (4F) Steel (4A)	All (see 6;3.1.18)	See 4;2.7	Aluminium (1B1, 1B2) Fibre (1G) Other metal (1N1, 1N2) Plastics (1H1, 1H2) Plywood (1D) Steel (1A1, 1A2)	Aluminium (3B1, 3B2) Plastics (3H1, 3H2) Steel (3A1, 3A2)

...

Packing Instruction Y956

Limited quantities
Passenger and cargo aircraft for UN 3077 and UN 3335 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium Fibreboard Natural wood <u>Other metal</u> Plastics Plywood Reconstituted wood Steel	Aluminium Fibre Other metal Plastics Steel	Aluminium Plastics Steel

Packing Instruction 957

Passenger and cargo aircraft for UN 2211 and UN 3314 only

...

SINGLE PACKAGINGS

<i>Boxes</i>	<i>Drums</i>
Fibreboard (4G) <u>Other metal (4N)</u> Plywood (4D) Reconstituted wood (4F) Wooden (4C1, 4C2)	Aluminium (1A1, 1B2) Fibre (1G) Plywood (1D) Steel (1A1, 1A2)

Packing Instruction 958

Passenger and cargo aircraft for UN 2071 and UN 2590 only

...

SINGLE PACKAGINGS

<i>Bags</i>	<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Plastics (5H4) Textile(5L3)	Fibreboard (4G) Natural wood (4C2) <u>Other metal (4N)</u> Plastics (4H1, 4H2) Plywood (4D) Reconstituted wood (4F)	Aluminium (1B2) Fibre (1G) Plastics (1H2) Plywood (1D) Steel (1A2)	Plastics (3H2) Steel (3A2)
Woven plastics (5H3)			

Packing Instruction Y958

Limited quantities
Passenger and cargo aircraft

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium Fibreboard Natural wood <u>Other metal</u> Plastics Plywood Reconstituted wood Steel	Aluminium Fibre Other metal Plastics Steel	Aluminium Plastics Steel

...

Packing Instruction 960

Passenger and cargo aircraft for UN 3316 only

...

See paragraph 3.2.15 of DGP/23-WP/3 and paragraph 2.5.1.7 of this report:

ADDITIONAL PACKING REQUIREMENTS

- Kits may contain dangerous goods which require segregation according to Table 7-1.
- Packagings must meet the performance standards of the most stringent packing group assigned to any individual substance contained in the kit. Where the kit contains only dangerous goods to which no packing group is assigned, packagings must meet Packing Group II performance standards.
- Kits must not be packed with other dangerous goods in the same outer packaging, with the exception of dry ice. If dry ice is used, the requirements in Packing Instruction 954 must be met.

...

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
 Fibreboard (4G)
 Natural wood (4C1, 4C2)
Other metal (4N)
 Plastics (4H1, 4H2)
 Plywood (4D)
 Reconstituted wood (4F)
 Steel (4A)

Packing Instruction Y960

Limited quantities
 Passenger and cargo aircraft for UN 3316 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Fibreboard
 Natural wood
Other metal
 Plastics
 Plywood
 Reconstituted wood

Packing Instruction 961

Passenger and cargo aircraft for UN 3268 only

...

Corrigendum to UN Model Regulations (Seventeenth revised Edition)
ST/SG/AC.10/1/Rev.17/Corr.1::

ADDITIONAL PACKING REQUIREMENTS FOR COMBINATION PACKAGINGS

- Packagings must meet the Packing Group III performance requirements.
- The packagings must be designed and constructed to prevent movement of the articles and inadvertent operation during normal conditions of transport.
- Any pressure ~~vessel~~ receptacle must be in accordance with the requirements of the appropriate national authority for the substance(s) contained ~~in the pressure vessel(s) therein~~.

...

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (~~4C1~~, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B2)
Fibre (1G)
Other metal (~~4N~~, 1N2)
Plastics (1H2)
Plywood (1D)
Steel (1A2)

Jerricans

Aluminium (3B2)
Other metal (3N2)
Plastics (3H2)
Steel (3A2)

...

Packing Instruction Y963

Passenger and cargo aircraft for ID 8000 only

Consumer commodities are materials that are packaged and distributed in a form intended or suitable for retail sale for the purposes of personal care or household use. These include items administered or sold to patients by doctors or medical administrations. Except as otherwise provided below, dangerous goods packed in accordance with this packing instruction do not need to comply with 4;1 or Part 6 of these Instructions; they must, however, comply with all other applicable requirements.

...

See paragraph 2.5.8 of this report:

- e) Inner packagings must be tightly packed in strong outer packagings and must be so packed, secured or cushioned so as to prevent any breakage, puncture or leakage of contents into the outer packaging(s) during normal conditions of transport. Absorbent material must be provided for glass or earthenware inner packaging(s) containing consumer commodities in Class 2 or 3 or liquids of Division 6.1, in sufficient quantity to absorb the liquid contents of the largest of such inner packagings contained in the outer packaging. Absorbent and cushioning material must not react dangerously with the contents of the inner packagings. Notwithstanding the above, absorbent material may not be required if the inner packagings are so protected that breakage of the inner packagings and leakage of their contents from the outer packaging will not occur during normal conditions of transport.

...

- m) Packages prepared in accordance with these provisions must be durably and legibly marked with the mark shown in Figure 3-1.

~~Note. Packages prepared for transport before 31 December 2010 using Packing Instruction 910 in the 2009-2010 Edition of these Instructions may be presented for transport until 31 March 2011 without the mark shown in Figure 3-1.~~

Packing Instruction 964

Passenger and cargo aircraft for UN 1941, UN 1990, UN 2315, UN 3151, UN 3082 and UN 3334 only

...

See paragraph 3.2.11 of DGP/23-WP/3:

COMBINATION PACKAGINGS					SINGLE PACKAGINGS	
UN number and proper shipping name	Inner packaging (see 6;3.2)	Inner packaging quantity (per receptacle)	Total quantity per package — passenger	Total quantity per package — cargo	Passenger	Cargo
...						
UN 3334 Aviation regulated liquid, n.o.s.	Glass	10.0 L	No Limit 450 L	No Limit 450 L	No Limit 450 L	No Limit 450 L
	Plastics	30.0 L				
	Metal	40.0 L				

See paragraph 2.5.1 of this report:

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium (4B)
Fibreboard (4G)
Natural wood (4C1, 4C2)
Other metal (4N)
Plastics (4H1, 4H2)
Plywood (4D)
Reconstituted wood (4F)
Steel (4A)

Drums

Aluminium (1B1, 1B2)
Fibre (1G)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Other metal (3N2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

SINGLE PACKAGINGS

Composites

All (see 6;3.1.18)

Cylinders

See 4;2.7

Drums

Aluminium (1B1, 1B2)
Other metal (1N1, 1N2)
Plastics (1H1, 1H2)
Steel (1A1, 1A2)

Jerricans

Aluminium (3B1, 3B2)
Plastics (3H1, 3H2)
Steel (3A1, 3A2)

Packing Instruction Y964

Limited quantities

Passenger and cargo aircraft for UN 1941, UN 1990, UN 3082 and UN 3334 only

...

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6;3.1)

Boxes

Aluminium
Fibreboard
Natural wood
Other metal
Plastics
Plywood
Reconstituted wood
Steel

Drums

Aluminium
Fibre
Other metal
Plastics
Steel

Jerricans

Aluminium
Plastics
Steel

Packing Instruction 965

Passenger and cargo aircraft for UN 3480

This entry applies to lithium ion or lithium polymer batteries.

~~Lithium Cells~~ and batteries, identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

See paragraph 2.3.3 of this report:

Waste lithium batteries and lithium batteries being shipped for recycling or disposal are ~~prohibited~~ **forbidden** from air transport unless approved by the appropriate national authority of the State of Origin and the State of the Operator.

Section I of this packing instruction applies to lithium ion and lithium polymer cells and batteries that are assigned to Class 9. Certain lithium ion and lithium polymer cells and batteries offered for transport and meeting the requirements of Section II of this packing instruction, subject to the paragraphs above, are not subject to other additional requirements of these Instructions.

SECTION I

Section I requirements apply to each cell or battery type that has been determined to meet the criteria for assignment to Class 9.

See paragraph 5.1.13 of this report:

Each cell or battery must:

- 1) be of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, ~~sub-section 38.3;~~ **and**

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 2) incorporate a safety venting device or be designed to preclude a violent rupture under conditions normally incident to transport and be equipped with an effective means of preventing external short circuits; **and**

- 3) **be manufactured under a quality management programme as described in 2:9.3.1 e).**

Each battery containing cells or a series of cells connected in parallel must be equipped with an effective means, as necessary, to prevent dangerous reverse current flow (e.g. diodes, fuses).

General requirements

Part 4;1 requirements must be met.

See paragraph 3.2.12 of DGP/23-WP/3:

Contents	Package quantity (Section I)	
	Passenger	Cargo
Lithium ion cells and batteries	5 kg-G	35 kg-G

See paragraph 2.5.1.9 of this report:

ADDITIONAL PACKING REQUIREMENTS

- Lithium ion cells and batteries must be protected against short circuits.
- Lithium ion cells and batteries must be placed in inner packagings that completely enclose the cell or battery then placed in an outer packaging. The completed package for the cells or batteries must meet the Packing Group II performance requirements.
- Lithium ion batteries with a mass of 12 kg or greater and having a strong, impact-resistant outer casing, or assemblies of such batteries, may be transported when packed in strong outer packagings, ~~or in~~ protective enclosures (e.g. in fully enclosed or wooden slatted crates) not subject to the requirements of Part 6 of these Instructions, if approved by the appropriate authority of the State of Origin. A copy of the document of approval must accompany the consignment.
- Batteries manufactured after 31 December 2011 must be marked with the Watt-hour rating on the outside case.

See paragraph 2.5.1.1 of this report:

OUTER PACKAGINGS

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (1B2)	Aluminium (3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (3H2)
Natural wood (4C1, 4C2)	<u>Other metal (1N1)</u>	Steel (3A2)
<u>Other metal (4N)</u>	Plastics (1H2)	
Plastics (4H2)	Plywood (1D)	
Plywood (4D)	Steel (1A2)	
Reconstituted wood (4F)		
Steel (4A)		

See paragraph 3.2.31 of DGP/23-WP/3:

SECTION II

With the exception of Part 1:2.3 (Transport of dangerous goods by post), 7:4.4 (Reporting of dangerous goods accidents and incidents) and 8:1.1 (Provisions for dangerous goods carried by passengers or crew), Lithium ion cells and batteries offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

See paragraph 5.1.13 of this report:

Cells and batteries identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Waste lithium batteries and lithium batteries being shipped for recycling or disposal are forbidden from air transport unless approved by the appropriate national authority of the State of Origin and the State of the Operator.

Lithium ion cells and batteries may be offered for transport if they meet the following:

- 1) for lithium ion cells, the Watt-hour rating (see the Glossary of Terms in Attachment 2) is not more than 20 Wh;
- 2) for lithium ion batteries, the Watt-hour rating is not more than 100 Wh;
 - the Watt-hour rating must be marked on the outside of the battery case except for those batteries manufactured before 1 January 2009;
- 3) each cell or battery is of the type proven to meet the requirements of each test in the *UN Manual of Tests and Criteria*, Part III, sub-section 38.3. However, batteries and cells manufactured before 1 January 2014 conforming to a design type tested according to the requirements of the fifth revised edition of the UN Manual of Tests and Criteria, Part III, sub-section 38.3 may continue to be transported;

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 4) cells and batteries must be manufactured under a quality management programme as described in 2:9.3.1 e).

General requirements

Batteries must be packed in strong outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1).

Contents	Package quantity (Section II)	
	Passenger	Cargo
Lithium ion cells and batteries	10 kg G	10 kg G

ADDITIONAL PACKING REQUIREMENTS

- Cells and batteries must be packed in inner packagings that completely enclose the cell or battery then placed in a strong outer packaging.
- Cells and batteries must be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to a short circuit.
- Each package must be capable of withstanding a 1.2 m drop test in any orientation without:
 - damage to cells or batteries contained therein;
 - shifting of the contents so as to allow battery to battery (or cell to cell) contact;
 - release of contents.
- Each package must be labelled with a lithium battery handling label (Figure 5-31).
- Each consignment must be accompanied with a document with an indication that:
 - the package contains lithium ion cells or batteries;
 - the package must be handled with care and that a flammability hazard exists if the package is damaged;
 - special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary;
 - a telephone number for additional information; and

See paragraph 5.1.12 of this report:

- the words "lithium ion batteries", "~~not restricted~~" and "~~in compliance with Section II of PI965~~" must be placed on the air waybill, when an air waybill is used.
- Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with their responsibilities.

OUTER PACKAGINGS*Boxes**Drums**Jerricans*

Strong outer packagings

See paragraph 5.1.5 of this report:

OVERPACKS

When packages are placed in an overpack, the lithium battery handling label required by this packing instruction must either be clearly visible or the label must be affixed on the outside of the overpack and the overpack must be marked with the word "Overpack".

Packing Instruction 966

Passenger and cargo aircraft for UN 3481 (packed with equipment) only

This entry applies to lithium ion or lithium polymer batteries packed with equipment.

~~Lithium Cells and~~ batteries, identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Section I of this packing instruction applies to lithium ion and lithium polymer cells and batteries that are assigned to Class 9. Certain lithium ion and lithium polymer cells and batteries offered for transport and meeting the requirements of Section II of this packing instruction, subject to the paragraph above, are not subject to other additional requirements of these Instructions.

SECTION I

Section I requirements apply to each cell or battery type that has been determined to meet the criteria for assignment to Class 9.

See paragraph 5.1.13 of this report:

Each cell or battery must:

- 1) be of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, ~~sub-section 38.3; and~~

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 2) incorporate a safety venting device or be designed to preclude a violent rupture under conditions normally incident to transport and be equipped with an effective means of preventing external short circuits; ~~and-~~

- 3) be manufactured under a quality management programme as described in 2:9.3.1 e).

Each battery containing cells or a series of cells connected in parallel must be equipped with an effective means, as necessary, to prevent dangerous reverse current flow (e.g. diodes, fuses).

General requirements

Part 4;1 requirements must be met.

See paragraph 3.2.12 of DGP/23-WP/3:

<i>Contents</i> <u>UN Number and Name</u>	<i>Package quantity</i> <i>(Section I)</i>	
	<i>Passenger</i>	<i>Cargo</i>
Quantity of lithium ion cells and batteries per package, excluding equipment <u>UN 3481 Lithium ion batteries packed with equipment</u>	5 kg of lithium ion cells or batteries	35 kg of lithium ion cells or batteries

ADDITIONAL PACKING REQUIREMENTS

- Lithium ion cells and batteries must be protected against short circuits.
- Lithium ion cells or batteries must:
 - be placed in inner packagings that completely enclose the cell or battery then placed in an outer packaging. The completed package for the cells or batteries must meet the Packing Group II performance requirements; or
 - be placed in inner packagings that completely enclose the cell or battery, then placed with equipment in a package that meets the Packing Group II performance requirements.
- The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
- For the purpose of this packing instruction, “equipment” means apparatus requiring the lithium ion batteries with which it is packed for its operation.
- Batteries manufactured after 31 December 2011 must be marked with the Watt-hour rating on the outside case.

OUTER PACKAGINGS

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (1B2)	Aluminium (3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (3H2)
Natural wood (4C1, 4C2)	Plastics (1H2)	Steel (3A2)
Plastics (4H2)	Plywood (1D)	
Plywood (4D)	Steel (1A2)	
Reconstituted wood (4F)		
Steel (4A)		

See paragraph 3.2.31 of DGP/23-WP/3:

SECTION II

With the exception of Part 1:2.3 (Transport of dangerous goods by post), 7:4.4 (Reporting of dangerous goods accidents and incidents) and 8:1.1 (Provisions for dangerous goods carried by passengers or crew), lithium ion cells and batteries packed with equipment offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

See paragraph 5.1.13 of this report:

Cells and batteries identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Lithium ion cells and batteries may be offered for transport if they meet the following:

- 1) for lithium ion cells, the Watt-hour rating (see the Glossary of Terms in Attachment 2) is not more than 20 Wh;
- 2) for lithium ion batteries, the Watt-hour rating is not more than 100 Wh;
 - the Watt-hour rating must be marked on the outside of the battery case except for those batteries manufactured before 1 January 2009;
- 3) each cell or battery is of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3. However, batteries and cells manufactured before 1 January 2014 conforming to a design type tested according to the requirements of the fifth revised edition of the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3 may continue to be transported;

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 4) cells and batteries must be manufactured under a quality management programme as described in 2:9.3.1 e).

General requirements

Batteries must be packed in strong outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1).

ADDITIONAL PACKING REQUIREMENTS

- Cells and batteries must be packed in inner packagings that completely enclose the cell or battery.
- Cells and batteries must be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to a short circuit.
- The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
- The maximum number of batteries in each package must be the minimum number required to power the equipment, plus two spares.
- Lithium ion cells or batteries must:
 - be placed in inner packagings that completely enclose the cell or battery then placed in a strong outer packaging; or
 - be placed in inner packagings that completely enclose the cell or battery, then placed with the equipment in a strong outer packaging.
- Each package of cells or batteries, or the completed package, must be capable of withstanding a 1.2 m drop test in any orientation without:
 - damage to cells or batteries contained therein;
 - shifting of the contents so as to allow battery to battery (or cell to cell) contact;
 - release of contents.
- Each package must be labelled with a lithium battery handling label (Figure 5-31).
- Each consignment must be accompanied with a document with an indication that:
 - the package contains lithium ion cells or batteries;
 - the package must be handled with care and that a flammability hazard exists if the package is damaged;
 - special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary;
 - a telephone number for additional information; and

See paragraph 5.1.12 of this report:

- the words "lithium ion batteries", "~~not restricted~~" and "~~in compliance with Section II of PI966~~" must be placed on the air waybill, when an air waybill is used.
- Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with their responsibilities.

OUTER PACKAGINGS*Boxes**Drums**Jerricans*

Strong outer packagings

See paragraph 5.1.5 of this report:

OVERPACKS

When packages are placed in an overpack, the lithium battery handling label required by this packing instruction must either be clearly visible or the label must be affixed on the outside of the overpack and the overpack must be marked with the word "Overpack".

Packing Instruction 967

Passenger and cargo aircraft for UN 3481 (contained in equipment) only

This entry applies to lithium ion or lithium polymer batteries contained in equipment.

~~Lithium Cells and~~ batteries, identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Section I of this packing instruction applies to lithium ion and lithium polymer cells and batteries that are assigned to Class 9. Certain lithium ion and lithium polymer cells and batteries offered for transport and meeting the requirements of Section II of this packing instruction, subject to the paragraph above, are not subject to other additional requirements of these Instructions.

SECTION I

Section I requirements apply to each cell or battery type that has been determined to meet the criteria for assignment to Class 9.

See paragraph 5.1.13 of this report:

Each cell or battery must:

- 1) be of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, ~~sub-section 38.3; and~~

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 2) incorporate a safety venting device or be designed to preclude a violent rupture under conditions normally incident to transport and be equipped with an effective means of preventing external short circuits; ~~and~~

- 3) be manufactured under a quality management programme as described in 2.9.3.1 e).

Each battery containing cells or a series of cells connected in parallel must be equipped with an effective means, as necessary, to prevent dangerous reverse current flow (e.g. diodes, fuses).

General requirements

Equipment must be packed in strong outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.9 (except 1.1.9.1).

See paragraph 3.2.12 of DGP/23-WP/3:

<i>Contents</i> <u>UN number and name</u>	<i>Net quantity per piece of equipment-Package quantity (Section I)</i>	
	<i>Passenger</i>	<i>Cargo</i>
<u>UN 3481 Lithium ion batteries contained in equipment</u>	<u>5 kg of lithium ion cells or batteries</u>	<u>35 kg of lithium ion cells or batteries</u>

ADDITIONAL PACKING REQUIREMENTS

- The equipment must be secured against movement within the outer packaging and be packed so as to prevent accidental operation during air transport.
- The equipment must be packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the battery is afforded equivalent protection by the equipment in which it is contained.
- Batteries manufactured after 31 December 2011 must be marked with the Watt-hour rating on the outside case.

OUTER PACKAGINGS

Boxes

Drums

Jerricans

Strong outer packagings

 See paragraph 3.2.31 of DGP/23-WP/3:

SECTION II

With the exception of Part 1:2.3 (Transport of dangerous goods by post), 7:4.4 (Reporting of dangerous goods accidents and incidents) and 8:1.1 (Provisions for dangerous goods carried by passengers or crew), Lithium ion cells and batteries contained in equipment offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

 See paragraph 5.1.13 of this report:

Cells and batteries identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Lithium ion cells and batteries may be offered for transport if they meet the following:

- 1) for lithium ion cells, the Watt-hour rating (see the Glossary of Terms in Attachment 2) is not more than 20 Wh;
- 2) for lithium ion batteries, the Watt-hour rating is not more than 100 Wh;
 - the Watt-hour rating must be marked on the outside of the battery case except for those batteries manufactured before 1 January 2009;
- 3) each cell or battery is of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3. However, batteries and cells manufactured before 1 January 2014 conforming to a design type tested according to the requirements of the fifth revised edition of the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3 may continue to be transported;

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 4) cells and batteries must be manufactured under a quality management programme as described in 2:9.3.1 e).

Devices such as radio frequency identification (RFID) tags, watches and temperature loggers, which are not capable of generating a dangerous evolution of heat, may be transported when intentionally active. When active, these devices must meet defined standards for electromagnetic radiation to ensure that the operation of the device does not interfere with aircraft systems.

General requirements

Equipment must be packed in strong outer packagings that conform to Part 4:1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1).

ADDITIONAL PACKING REQUIREMENTS

- The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
- Cells and batteries must be protected so as to prevent short circuits.
- The equipment must be packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the battery is afforded equivalent protection by the equipment in which it is contained.
- Each package containing more than four cells or more than two batteries installed in equipment must be labelled with a lithium battery handling label (Figure 5-31) (except button cell batteries installed in equipment (including circuit boards)).
- Each consignment with packages bearing the lithium battery handling label must be accompanied with a document with an indication that:
 - the package contains lithium ion cells or batteries;
 - the package must be handled with care and that a flammability hazard exists if the package is damaged;
 - special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary;
 - a telephone number for additional information; and

See paragraph 5.1.12 of this report:

- the words "lithium ion batteries", "~~not restricted~~" and "~~in compliance with Section II of PI967~~" must be placed on the air waybill, when an air waybill is used.
- Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with their responsibilities.

OUTER PACKAGINGS*Boxes**Drums**Jerricans*

Strong outer packagings

See paragraph 5.1.5 of this report:

OVERPACKS

When packages are placed in an overpack, the lithium battery handling label required by this packing instruction must either be clearly visible or the label must be affixed on the outside of the overpack and the overpack must be marked with the word "Overpack".

Packing Instruction 968

Passenger and cargo aircraft for UN 3090

This entry applies to lithium metal or lithium alloy batteries in Class 9 (Section I) and lithium metal or lithium alloy batteries subject to specific requirements of these Instructions (Section II).

~~Lithium Cells and~~ batteries, identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

See paragraph 2.3.3 of this report:

Waste lithium batteries and lithium batteries being shipped for recycling or disposal are ~~prohibited~~ ~~forbidden~~ from air transport unless approved by the appropriate national authority of the State of Origin and the State of the Operator.

Section I of this packing instruction applies to lithium metal and lithium alloy cells and batteries that are assigned to Class 9. Certain lithium metal and lithium alloy cells and batteries offered for transport and meeting the requirements of Section II of this packing instruction, subject to the paragraphs above, are not subject to other additional requirements of these Instructions.

SECTION I

Section I requirements apply to each cell or battery type that has been determined to meet the criteria for assignment to Class 9.

See paragraph 5.1.13 of this report:

Each cell or battery must:

- 1) be of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, ~~sub-section~~ 38.3; ~~and~~

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 2) incorporate a safety venting device or be designed to preclude a violent rupture under conditions normally incident to transport and be equipped with an effective means of preventing external short circuits; ~~and~~

- 3) be manufactured under a quality management programme as described in 2.9.3.1 e).

Each battery containing cells or a series of cells connected in parallel must be equipped with an effective means, as necessary, to prevent dangerous reverse current flow (e.g. diodes, fuses).

General requirements

Part 4;1 requirements must be met.

See paragraph 3.2.12 of DGP/23-WP/3:

Contents	<i>Package quantity (Section I)</i>	
	<i>Passenger</i>	<i>Cargo</i>
Lithium metal cells and batteries	2.5 kg	35 kg

See paragraph 2.5.1.9 of this report:

ADDITIONAL PACKING REQUIREMENTS

- Lithium metal cells and batteries must be protected against short circuits.
- Lithium metal cells and batteries must be placed in inner packagings that completely enclose the cell or battery then placed in an outer packaging. The completed package for the cells or batteries must meet the Packing Group II performance requirements.
- Lithium batteries with a mass of 12 kg or greater and having a strong, impact-resistant outer casing, or assemblies of such batteries, may be transported when packed in strong outer packagings, ~~and in~~ protective enclosures (e.g. in fully enclosed or wooden slatted crates) not subject to the requirements of Part 6 of these Instructions, if approved by the appropriate authority of the State of Origin. A copy of the document of approval must accompany the consignment.
- For lithium metal cells and batteries prepared for transport on passenger aircraft as Class 9:
 - Cells and batteries offered for transport on passenger aircraft must be packed in intermediate or outer rigid metal packaging.
 - Cells and batteries must be surrounded by cushioning material that is non-combustible and non-conductive, and placed inside an outer packaging.

See paragraph 2.5.1.1 of this report:

OUTER PACKAGINGS

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (1B2)	Aluminium (3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (3H2)
Natural wood (4C1, 4C2)	<u>Other metal (1N1)</u>	Steel (3A2)
<u>Other metal (4N)</u>	Plastics (1H2)	
Plastics (4H2)	Plywood (1D)	
Plywood (4D)	Steel (1A2)	
Reconstituted wood (4F)		
Steel (4A)		

See paragraph 3.2.31 of DGP/23-WP/3:

SECTION II

With the exception of Part 1:2.3 (Transport of dangerous goods by post), 7:4.4 (Reporting of dangerous goods accidents and incidents) and 8:1.1 (Provisions for dangerous goods carried by passengers or crew), lithium metal or lithium alloy cells and batteries offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

See paragraph 5.1.13 of this report:

Cells and batteries identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Waste lithium batteries and lithium batteries being shipped for recycling or disposal are forbidden from air transport unless approved by the appropriate national authority of the State of Origin and the State of the Operator.

Lithium metal or lithium alloy cells and batteries may be offered for transport if they meet the following:

- 1) for a lithium metal cell, the lithium content is not more than 1 g;
- 2) for a lithium metal or lithium alloy battery, the aggregate lithium content is not more than 2 g;
- 3) each cell or battery is of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3. However, batteries and cells manufactured before 1 January 2014 conforming to a design type tested according to the requirements of the fifth revised edition of the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3 may continue to be transported;

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 4) cells and batteries must be manufactured under a quality management programme as described in 2:9.3.1 e).

General requirements

Batteries must be packed in strong outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1).

<i>Contents</i>	<i>Package quantity (Section II)</i>	
	<i>Passenger</i>	<i>Cargo</i>
Lithium metal cells and batteries	2.5 kg G	2.5 kg G

ADDITIONAL PACKING REQUIREMENTS

- Cells and batteries must be packed in inner packagings that completely enclose the cell or battery then placed in a strong outer packaging.
- Cells and batteries must be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to a short circuit.
- Each package must be capable of withstanding a 1.2 m drop test in any orientation without:
 - damage to cells or batteries contained therein;
 - shifting of the contents so as to allow battery to battery (or cell to cell) contact;
 - release of contents.
- Each package must be labelled with a lithium battery handling label (Figure 5-31).
- Each consignment must be accompanied with a document with an indication that:
 - the package contains lithium metal cells or batteries;
 - the package must be handled with care and that a flammability hazard exists if the package is damaged;
 - special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary;
 - a telephone number for additional information; and

See paragraph 5.1.12 of this report:

- the words “lithium metal batteries”, “~~not restricted~~” and “in compliance with Section II of PI968” must be placed on the air waybill, when an air waybill is used.
- Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with their responsibilities.

OUTER PACKAGINGS*Boxes**Drums**Jerricans*

Strong outer packagings

See paragraph 5.1.5 of this report:

OVERPACKS

When packages are placed in an overpack, the lithium battery handling label required by this packing instruction must either be clearly visible or the label must be affixed on the outside of the overpack and the overpack must be marked with the word “Overpack”.

Packing Instruction 969

Passenger and cargo aircraft for UN 3091 (packed with equipment) only

This entry applies to lithium metal or lithium alloy batteries packed with equipment.

~~Lithium Cells and~~ batteries, identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Section I of this packing instruction applies to lithium metal and lithium alloy cells and batteries that are assigned to Class 9. Certain lithium metal and lithium alloy cells and batteries offered for transport and meeting the requirements of Section II of this packing instruction, subject to the paragraph above, are not subject to other additional requirements of these Instructions.

SECTION I

Section I requirements apply to each cell or battery type that has been determined to meet the criteria for assignment to Class 9.

See paragraph 5.1.13 of this report:

Each cell or battery must:

- 1) be of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, ~~sub-section 38.3; and~~

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 2) incorporate a safety venting device or be designed to preclude a violent rupture under conditions normally incident to transport and be equipped with an effective means of preventing external short circuits;

- 3) be manufactured under a quality management programme as described in 2.9.3.1 e).

Each battery containing cells or a series of cells connected in parallel must be equipped with an effective means, as necessary, to prevent dangerous reverse current flow (e.g. diodes, fuses).

General requirements

Part 4;1 requirements must be met.

See paragraph 3.2.12 of DGP/23-WP/3:

<i>Contents</i> <u>UN number and name</u>	<i>Package quantity</i> <i>(Section I)</i>	
	<i>Passenger</i>	<i>Cargo</i>
Quantity of lithium metal cells and batteries per overpack, excluding equipment <u>UN 3091 Lithium metal batteries packed with equipment</u>	<u>5 kg of lithium metal cells or batteries</u>	<u>35 kg of lithium metal cells or batteries</u>

ADDITIONAL PACKING REQUIREMENTS

- Lithium metal cells and batteries must be protected against short circuits.
- Lithium metal cells or batteries must:
 - be placed in inner packagings that completely enclose the cell or battery then placed in an outer packaging. The completed package for the cells or batteries must meet the Packing Group II performance requirements; or
 - be placed in inner packagings that completely enclose the cell or battery, then placed with equipment in a package that meets the Packing Group II performance requirements.
- The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
- Each completed package containing lithium cells or batteries must be marked and labelled in accordance with the applicable requirements of 5;1, 5;2 and 5;3.
- For the purpose of this packing instruction, “equipment” means apparatus requiring the lithium batteries with which it is packed for its operation.
- For lithium metal cells and batteries prepared for transport on passenger aircraft as Class 9:
 - Cells and batteries offered for transport on passenger aircraft must be packed in intermediate or outer rigid metal packaging surrounded by cushioning material that is non-combustible and non-conductive and placed inside an outer packaging.

OUTER PACKAGINGS

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (1B2)	Aluminium (3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (3H2)
Natural wood (4C1, 4C2)	Plastics (1H2)	Steel (3A2)
Plastics (4H2)	Plywood (1D)	
Plywood (4D)	Steel (1A2)	
Reconstituted wood (4F)		
Steel (4A)		

See paragraph 3.2.31 of DGP/23-WP/3:

SECTION II

With the exception of Part 1;2.3 (Transport of dangerous goods by post), 7;4.4 (Reporting of dangerous goods accidents and incidents) and 8;1.1 (Provisions for dangerous goods carried by passengers or crew), lithium metal cells and batteries packed with equipment offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

See paragraph 5.1.13 of this report:

Cells and batteries identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Lithium metal cells and batteries may be offered for transport if they meet the following:

- 1) for a lithium metal cell, the lithium content is not more than 1 g;
- 2) for a lithium metal or lithium alloy battery, the aggregate lithium content is not more than 2 g;
- 3) each cell or battery is of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3. However, batteries and cells manufactured before 1 January 2014 conforming to a design type tested according to the requirements of the fifth revised edition of the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3 may continue to be transported;

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 4) cells and batteries must be manufactured under a quality management programme as described in 2;9.3.1 e).

General requirements

Batteries must be packed in strong outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1).

ADDITIONAL PACKING REQUIREMENTS

- Cells and batteries must be packed in inner packagings that completely enclose the cell or battery.
- Cells and batteries must be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to a short circuit.
- The maximum number of batteries in each package must be the minimum number required to power the equipment, plus two spares.
- Lithium metal cells or batteries must:
 - be placed in inner packagings that completely enclose the cell or battery, then placed in a strong outer packaging; or
 - be placed in inner packagings that completely enclose the cell or battery, then placed with the equipment in a strong outer packaging.
- Each package of cells or batteries, or the completed package, must be capable of withstanding a 1.2 m drop test in any orientation without:
 - damage to cells or batteries contained therein;
 - shifting of the contents so as to allow battery to battery (or cell to cell) contact;
 - release of contents.
- Each package must be labelled with a lithium battery handling label (Figure 5-31).
- Each consignment must be accompanied with a document with an indication that:
 - the package contains lithium metal cells or batteries;
 - the package must be handled with care and that a flammability hazard exists if the package is damaged;
 - special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary;
 - a telephone number for additional information; and

See paragraph 5.1.12 of this report:

- the words “lithium metal batteries”, “~~not restricted~~” and “in compliance with Section II of PI969” must be placed on the air waybill, when an air waybill is used.
- Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with their responsibilities.

OUTER PACKAGINGS*Boxes**Drums**Jerricans*

Strong outer packagings

See paragraph 5.1.5 of this report:

OVERPACKS

When packages are placed in an overpack, the lithium battery handling label required by this packing instruction must either be clearly visible or the label must be affixed on the outside of the overpack and the overpack must be marked with the word “Overpack”.

Packing Instruction 970

Passenger and cargo aircraft for UN 3091 (contained in equipment) only

This entry applies to lithium metal or lithium alloy batteries contained in equipment.

~~Lithium Cells and~~ batteries, identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Section I of this packing instruction applies to lithium metal and lithium alloy cells and batteries that are assigned to Class 9. Certain lithium metal and lithium alloy cells and batteries offered for transport and meeting the requirements of Section II of this packing instruction, subject to the paragraph above, are not subject to other additional requirements of these Instructions.

SECTION I

Section I requirements apply to each cell or battery type that has been determined to meet the criteria for assignment to Class 9.

See paragraph 5.1.13 of this report:

Each cell or battery must:

- 1) be of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, ~~sub~~-section 38.3; ~~and~~

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 2) incorporate a safety venting device or be designed to preclude a violent rupture under conditions normally incident to transport and be equipped with an effective means of preventing external short circuits; ~~and~~

- 3) be manufactured under a quality management programme as described in 2:9.3.1 e).

Each battery containing cells or a series of cells connected in parallel must be equipped with an effective means, as necessary, to prevent dangerous reverse current flow (e.g. diodes, fuses).

General requirements

Equipment must be packed in strong outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1).

See paragraph 3.2.12 of DGP/23-WP/3:

<i>Package contents UN number and name</i>	<i>Net quantity per piece of equipment- Package quantity (Section I)</i>	
	<i>Passenger</i>	<i>Cargo</i>
Lithium metal batteries UN 3091 Lithium metal batteries contained in equipment	5 kg of lithium metal cells or batteries	35 kg of lithium metal cells or batteries

ADDITIONAL PACKING REQUIREMENTS

- The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
- The equipment must be packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the battery is afforded equivalent protection by the equipment in which it is contained.
- The quantity of lithium metal contained in any piece of equipment must not exceed 12 g per cell and 500 g per battery.

OUTER PACKAGINGS*Boxes**Drums**Jerricans*

Strong outer packaging

 See paragraph 3.2.31 of DGP/23-WP/3:

SECTION II

With the exception of Part 1:2.3 (Transport of dangerous goods by post), 7:4.4 (Reporting of dangerous goods accidents and incidents) and 8:1.1 (Provisions for dangerous goods carried by passengers or crew), lithium metal cells and batteries contained in equipment offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

 See paragraph 5.1.13 of this report:

Cells and batteries identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Lithium metal cells and batteries may be offered for transport if they meet the following:

- 1) for a lithium metal cell, the lithium content is not more than 1 g;
- 2) for a lithium metal or lithium alloy battery, the aggregate lithium content is not more than 2 g.
- 3) each cell or battery is of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3. However, batteries and cells manufactured before 1 January 2014 conforming to a design type tested according to the requirements of the fifth revised edition of the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3 may continue to be transported;

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 4) cells and batteries must be manufactured under a quality management programme as described in 2:9.3.1 e).

Devices such as radio frequency identification (RFID) tags, watches and temperature loggers, which are not capable of generating a dangerous evolution of heat, may be transported when intentionally active. When active, these devices must meet defined standards for electromagnetic radiation to ensure that the operation of the device does not interfere with aircraft systems.

General requirements

Equipment containing batteries must be packed in strong outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1).

ADDITIONAL PACKING REQUIREMENTS

- The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
- Cells and batteries must be protected so as to prevent short circuits.
- The equipment must be packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the battery is afforded equivalent protection by the equipment in which it is contained.
- Each package containing more than four cells or more than two batteries installed in equipment must be labelled with a lithium battery handling label (Figure 5-31) (except button cell batteries installed in equipment (including circuit boards)).
- Each consignment with packages bearing the lithium battery handling label must be accompanied with a document with an indication that:
 - the package contains lithium metal cells or batteries;
 - the package must be handled with care and that a flammability hazard exists if the package is damaged;
 - special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary;
 - a telephone number for additional information; and

See paragraph 5.1.12 of this report:

- the words "lithium metal batteries", "~~not restricted~~" and "in compliance with Section II of PI970" must be placed on the air waybill, when an air waybill is used.
- Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with their responsibilities.

OUTER PACKAGINGS*Boxes**Drums**Jerricans*

Strong outer packagings

See paragraph 5.1.15 of this report:

OVERPACKS

When packages are placed in an overpack, the lithium battery handling label required by this packing instruction must either be clearly visible or the label must be affixed on the outside of the overpack and the overpack must be marked with the word "Overpack".

See paragraph 3.2.23.1 a) of DGP/23-WP/3:

Packing Instruction 971

Passenger and cargo aircraft for UN 3499 only (see also Special Provision A186)

General requirements

Part 4;1.1.1 and 1.1.8 requirements must be met.

For the purpose of this packaging instruction, a capacitor is considered an inner packaging.

<u>UN number and proper shipping name</u>	<u>Quantity — passenger</u>	<u>Quantity — cargo</u>
<u>UN 3499 Capacitor, electric double layer</u>	<u>No limit</u>	<u>No limit</u>

ADDITIONAL PACKING REQUIREMENTS

- Each capacitor must be transported in an uncharged state. The capacitor or, when fitted in a module, the module must be fitted with a metal strap connecting the terminals.
- Capacitors must be securely cushioned in the outer packagings.

OUTER PACKAGINGS OF COMBINATION PACKAGINGS (see 6:3.1)

Boxes

Drums

Jerricans

Strong outer packagings

...

Part 5

SHIPPER'S RESPONSIBILITIES

Chapter 1

GENERAL

...

1.1 GENERAL REQUIREMENTS

Before a person offers any package or overpack of dangerous goods for transport by air that person must ensure that:

See paragraph 2.3.3 of this report:

- a) the articles or substances are not ~~prohibited~~-forbidden for transport by air (see Part 1, Chapter 2);

...

See paragraph 2.6.2 of this report:

- i) before a package or overpack is reused, all inappropriate dangerous goods labels and markings are removed or completely obliterated;
- j) each package contained within an overpack is properly packed, marked, labelled and is free of any indication that its integrity has been compromised and in all respects is properly prepared as required in these Instructions. The "overpack" marking described in 2.4.10 is an indication of compliance with this requirement. The intended function of each package must not be impaired by the overpack-; and

- k) packages and overpacks containing dangerous goods are offered to the operator separately from cargo which is not subject to these Instructions, except as provided for in 7;1.4.1.

Note 1.— Packages and overpacks containing dangerous goods may be included on the same air waybill as cargo which is not subject to these Instructions.

Note 2.— This requirement also applies to consolidated shipments offered to the operator.

1.2.2 Certificates issued by the competent authority

1.2.2.1 Certificates issued by the competent authority are required for the following:

...

Certificates and applications for these certificates must be in accordance with the requirements in 6;7.22.

...

See paragraph 2.6.1 of this report:

Chapter 2

PACKAGE MARKINGS

Parts of this Chapter are affected by State Variations CA 4, DQ 4, ES 1, HK 2, MY 6, PK 1, US 1, US 7, VC 5, VU 1; see Table A-1

...

2.4.1.1 Unless otherwise provided in these Instructions, the proper shipping name of the dangerous goods (supplemented with the technical name(s) if appropriate, see Part 3, Chapter 1) and, when assigned, the corresponding UN number preceded by the letters "UN" or "ID", as appropriate, must be displayed on each package. The UN number and the letters "UN" must be at least 12 mm high, except for packagings of 30 litres or 30 kg capacity or less, when they must be at least 6 mm in height and for packagings of 5 litres or 5 kg or less when they must be of an appropriate size. In the case of unpackaged articles, the marking must be displayed on the article, on its cradle or on its handling, storage or launching device. A typical package marking would be:

"Corrosive liquid, acidic, organic, n.o.s. (caprylyl chloride) UN 3265".

Note.— The size requirements for the UN number marking will become mandatory from 1 January 2014.

...

2.4.10 Marking of overpacks

See paragraph 2.6.4 of this report:

An overpack must be marked with the word "Overpack", with the proper shipping name, UN number, and special handling instructions appearing on interior packages for each item of dangerous goods contained in the overpack unless markings and labels representative of all dangerous goods in the overpack are visible, except as required in 3.2.6 and 3.5.1.1 h) to i). Packaging specification markings must not be reproduced on the overpack. When packages containing dangerous goods in limited quantities are placed in an overpack, the overpack must also be marked with the limited quantity marking shown in Figure 3-1 unless the markings representative of all dangerous goods in the overpack are visible.

...

Chapter 3

LABELLING

...

3.5.2 Handling labels

...

3.5.2.2 Lithium battery handling label

See paragraph 2.2.2 of this report:

Packages containing lithium batteries that meet the requirements of Section II—packed according to of Packing Instructions 965 to 970 ~~that are not subject to other additional requirements of these Instructions~~ must bear a "Lithium battery" handling label shown in Figure 5-31, as required by the applicable packing instruction. The label must be a minimum dimension of 120 mm × 110 mm except labels of 74 mm × 105 mm may be used on packages containing lithium batteries where the packages are of dimensions such that they can only bear smaller labels. The label must show "Lithium metal batteries" or "Lithium ion batteries", as applicable. Where the package contains both types of batteries, the label must show "Lithium metal and lithium ion batteries".

...

Chapter 4

DOCUMENTATION

Parts of this Chapter are affected by State Variations AE 1, BN 1, CA 4, CA 14, CA 15, CA 16, CA 20, ES 1, HK 2, JM 2, JM 3, MY 6, PK 3, US 1, US 7, US 12, VC 7, VU 1, ZA 3; see Table A-1

...

4.1.5 Information required in addition to the dangerous goods description

...

4.1.5.1 Quantity of dangerous goods, number and type of packagings

The number of packages, type of packaging (e.g. steel drum, fibreboard box, etc.) and net quantity of dangerous goods in each package (by volume or mass, as appropriate) must be indicated for each item of dangerous goods bearing a different proper shipping name, UN number or packing group. Abbreviations may be used to specify the unit of measurement for the quantity. For packages containing the same dangerous goods and quantity per package a multiple of the quantity may be used. For example:

UN 1263, Paint, 3, PG II, 5 fibreboard boxes x 5 L

Consignment comprising packages of different quantities of the same dangerous good must be clearly identified. For example:

UN 1263, Paint, 3, PG II, 5 fibreboard boxes x 5 L, 10 fibreboard boxes x 10 L

See paragraphs 3.2.36 and 3.2.12 of DGP/23-WP/3:

UN packaging codes may only be used to supplement the description of the kind of package (e.g. one fibreboard box (4G)). For limited quantities, where the letter "G" follows the quantity in column 11 or 13 of Table 3-1, the gross mass of each package must be indicated, rather than the net quantity, except when there are different dangerous goods packed together in the same outer packaging, which must be described as shown in paragraph e); and:

- a) for empty uncleaned packagings as described by 4.1.4.3 b) only the number and type of packagings need be shown;
- b) for chemical kits and first aid kits, the total net mass of dangerous goods. Where the kits contain solids and/or liquids, the net mass of liquids within the kits is to be calculated on a 1 to 1 basis of their volume, i.e. 1 litre equal to 1 kilogram;
- c) for dangerous goods in machinery or apparatus, the individual total quantities of dangerous goods in solid, liquid or gaseous state, contained in the article;
- d) for dangerous goods transported in salvage packagings, an estimate of the quantity of dangerous goods must be given;

e) for items where "No Limit" or a packing instruction number is shown in columns 10 to 13 of Table 3-1, the quantity must be for dangerous goods in limited quantities with a 30 kg G limit in Table 3-1, where different dangerous goods are packed together in the same outer packaging, the net quantity of each dangerous goods followed by the gross mass of the completed package;

~~1) for substances the net mass or volume (e.g. UN 2969, UN 3294);~~

~~2) for UN 3091 and UN 3481 when packed with equipment in accordance with Packing Instructions 969 and 966 respectively, the net quantity of battery(ies) per package; and~~

~~3) for other articles the gross mass, followed by the letter G (e.g. UN 2794, UN 2800, UN 2990, UN 3166).~~

- f) for explosive articles of Class 1, the net quantity indicated for each package must be supplemented with the net explosive mass (see Part 1;3.1.1 for the definition of net explosive mass) contained in the package followed by the unit of measurement. The abbreviations "NEQ", "NEM" or "NEW" may be indicated in association with the value provided.

Note.— The number, type and capacity of each inner packaging within the outer packaging of a combination packaging is not required to be indicated.

• • •

See paragraph 2.6.1 of this report:

4.1.5.6 Firework classification reference

4.1.5.6.1 When fireworks of UN Nos. 0336 or 0337 are transported, the dangerous goods transport document must include a classification reference(s) issued by the appropriate national authority.

4.1.5.6.2 The classification reference(s) must consist of the appropriate national authority's State, indicated by the distinguishing sign for motor vehicles in international traffic, the appropriate national authority identification and a unique serial reference. Examples of such classification references are:

GB/HSE123456

D/BAM1234

USA EX20091234.

Renumber subsequent paragraphs accordingly:

• • •

4.1.5.~~78~~ *Additional requirements*

4.1.5.~~78~~.1 The dangerous goods transport document must also contain:

- a) the packing instruction applied and, when applicable, reference to Special Provision A1 or A2, except for radioactive material;

~~*Note.— Until 31 March 2011, the shipper may present for transport packages prepared for transport before 31 December 2010 using packing instructions in the 2009-2010 Edition of these Instructions. In that instance, the dangerous goods transport document must indicate the packing instruction number in effect from the 2009-2010 Edition of these Instructions.*~~

• • •

Part 6

PACKAGING NOMENCLATURE, MARKING, REQUIREMENTS AND TESTS

Chapter 1

APPLICABILITY, NOMENCLATURE AND CODES

...

1.3 INDEX OF PACKAGINGS

Table 6-2. Index of packagings other than inner packagings

See paragraph 2.7.1 of this report:					
<i>Kind</i>	<i>Code and, where applicable, category</i>		<i>Paragraph</i>	<i>Maximum capacity (L)</i>	<i>Maximum net mass (kg)</i>
...					
Plastic boxes	4H1	expanded plastic boxes	3.1.12		60
	4H2	solid plastic boxes	3.1.12		400
Steel or , aluminium or other metal boxes	4A	steel	3.1.13		400
	4B	aluminium	3.1.13		400
	<u>4N</u>	<u>metal, other than steel or aluminium</u>	<u>3.1.13</u>		<u>400</u>
Textile bags	5L1	without inner liner or coating	Not used in these Instructions		
	5L2	siftproof	3.1.14		50
	5L3	water-resistant	3.1.14		50
...					
See paragraph 3.2.39 of DGP/23-WP/3:					
Woven plastic bags	5H1		<u>3.1.15</u>	Specialized use only	<u>50</u>
...					

Chapter 2

MARKING OF PACKAGINGS OTHER THAN INNER PACKAGINGS

...

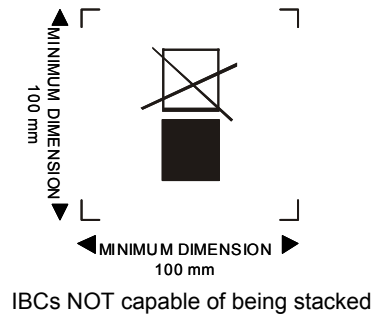
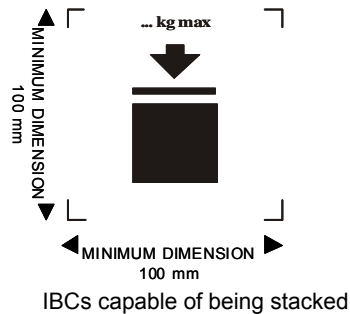
2.4 PACKAGING MARKINGS FOR INTERMEDIATE BULK CONTAINERS

...

See paragraph 2.7.1 of this report:

2.4.3 The maximum permitted stacking load applicable when the IBC is in use must be displayed on a symbol as follows:

Replace the symbols in the 2011-2012 Edition with the following:



The mass marked above the symbol must not exceed the load imposed during the design type test (see 6.5.6.6.4 of the UN Model Regulations) divided by 1.8.

...

Chapter 3

REQUIREMENTS FOR PACKAGINGS

3.1 REQUIREMENTS FOR PACKAGINGS OTHER THAN INNER PACKAGINGS

General requirements

...

3.1.13 ~~Steel or~~ aluminium ~~or other metal~~ boxes

4A steel

4B aluminium

4N metal, other than steel or aluminium

...

Chapter 5

REQUIREMENTS FOR THE CONSTRUCTION AND TESTING OF CYLINDERS AND CLOSED CRYOGENIC RECEPTACLES, AEROSOL DISPENSERS AND SMALL RECEPTACLES CONTAINING GAS (GAS CARTRIDGES) AND FUEL CELL CARTRIDGES CONTAINING LIQUEFIED FLAMMABLE GAS

...

5.1 GENERAL REQUIREMENTS

5.1.1 Design and construction

...

5.1.1.5 The test pressure of cylinders must be in accordance with Packing Instruction 200 or, for a chemical under pressure, with Packing Instruction 218. The test pressure for closed cryogenic receptacles must be in accordance with Packing Instruction 202. The test pressure of a metal hydride storage system must be in accordance with Packing Instruction 214.

...

5.1.3 Service equipment

...

5.1.3.2 Service equipment must be configured or designed to prevent damage that could result in the release of the cylinder and closed cryogenic receptacle contents during normal conditions of handling and transport. The filling and discharge valves and any protective caps must be capable of being secured against unintended opening. Valves must be protected as specified in 4.4.1.1-9.8.

...

5.1.6 Periodic inspection and testing

5.1.6.1 Refillable cylinders must be subjected to periodic inspections and tests by a body authorized by the appropriate national authority, in accordance with the following:

- a) check of the external conditions of the cylinder and verification of the equipment and the external markings;

...

- e) check of service equipment, other accessories and pressure-relief devices, if to be reintroduced into service.

Note.— For the periodic inspection and test frequencies, see Packing Instruction 200 or, for a chemical under pressure, Packing Instruction 218.

...

5.1.6.3 Pressure relief valves for closed cryogenic receptacles must be subject to periodic inspections and tests.

...

5.2.3 Service equipment

The following standards apply to closures and their protection:

~~ISO 11117:1998 Gas cylinders — Valve protection caps and valve guards for industrial and medical gas cylinders — Design, construction and tests.~~

~~ISO 11117:2008+ Cor 1:2009 Gas cylinders — Valve protection caps and valve guards — Design, construction and tests.~~

~~Note.— Construction according to ISO 11117:1998 may continue until 31 December 2014.~~

ISO 10297:2006 Gas cylinders — Refillable gas cylinder valves — Specification and type testing.

~~ISO 13340:2001 Transportable gas cylinders — Cylinder valves for non-refillable cylinders — Specification and prototype testing~~

For UN metal hydride storage systems, the requirements specified in the following standard apply to closures and their protection:

ISO 16111:2008 Transportable gas storage devices — Hydrogen absorbed in reversible metal hydride.

5.2.4 Periodic inspection and test

The following standards apply to the periodic inspection and testing of UN cylinders and UN metal hydride storage systems:

...

ISO 11623:2002 Transportable gas cylinders — Periodic inspection and testing of composite gas cylinders.

ISO 16111:2008 Transportable gas storage devices — Hydrogen absorbed in reversible metal hydride.

~~ISO 10460:2005 Gas cylinders – Welded carbon-steel gas cylinders – Periodic inspection and testing~~

~~Note.— The repair of welds described in clause 12.1 of this standard must not be permitted. Repairs described in clause 12.2 require the approval of the appropriate national authority which approved the periodic inspection and test body in accordance with 5.2.6.~~

...

Part 7

OPERATOR'S RESPONSIBILITIES

Chapter 1

ACCEPTANCE PROCEDURES

...

1.1 CARGO ACCEPTANCE PROCEDURES

1.1.1 Operators' acceptance staff must be adequately trained to assist them in identifying and detecting dangerous goods presented as general cargo.

See paragraph 2.8.10 of this report:

1.1.2 Cargo acceptance staff should seek confirmation from shippers about the contents of any item of cargo where there are suspicions that it may contain dangerous goods, with the aim of preventing undeclared dangerous goods from being loaded on an aircraft as general cargo. Many innocuous-looking items may contain dangerous goods, and a list of general descriptions which, experience has shown, are often applied to such items is shown in Chapter 6.

Note.— Often general names are used in the description of the content of a cargo shipment. To assist in the detection of undeclared dangerous goods, acceptance staff should check shipping documents with the general description stated on the air waybill and, if necessary, request documentary evidence from shippers that the shipment does not contain dangerous goods.

1.3 THE ACCEPTANCE CHECK

...

See paragraph 3.2.43 of DGP/23-WP/3:

- g) the outer of a combination packaging ~~of a package~~ or the single packaging is permitted by the applicable packing instruction, and when visible is of the type stated on the accompanying dangerous goods transport document;

...

Chapter 2

STORAGE AND LOADING

...

See paragraph 5.3.1 of this report:

2.1.3 For additional requirements concerning the loading of dangerous goods for carriage by helicopters, see Part 7:7.

See paragraph 2.8.6 of this report:

2.2 INCOMPATIBLE DANGEROUS GOODS

2.2.1 Segregation

Packages containing dangerous goods which might react dangerously one with another must not be stowed on an aircraft next to each other or in a position that would allow interaction between them in the event of leakage. As a minimum, the

segregation scheme shown in Table 7-1 must be followed in order to maintain acceptable segregation between packages containing dangerous goods having different hazards. The scheme applies irrespective of whether the hazard is the primary or subsidiary risk.

Table 7-1 below is moved from Part 7;1 (no change)

Table 7-1. Segregation between packages

<u>Hazard label</u>	<u>Class or division</u>							
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4.2</u>	<u>4.3</u>	<u>5.1</u>	<u>5.2</u>	<u>8</u>
<u>1</u>	<u>Note 1</u>	<u>Note 2</u>	<u>Note 2</u>	<u>Note 2</u>	<u>Note 2</u>	<u>Note 2</u>	<u>Note 2</u>	<u>Note 2</u>
<u>2</u>	<u>Note 2</u>	=	=	=	=	=	=	=
<u>3</u>	<u>Note 2</u>	=	=	=	=	x	=	=
<u>4.2</u>	<u>Note 2</u>	=	=	=	=	x	=	=
<u>4.3</u>	<u>Note 2</u>	=	=	=	=	=	=	x
<u>5.1</u>	<u>Note 2</u>	=	x	x	=	=	=	=
<u>5.2</u>	<u>Note 2</u>	=	=	=	=	=	=	=
<u>8</u>	<u>Note 2</u>	=	=	=	x	=	=	=

An "x" at the intersection of a row and column indicates that packages containing these classes of dangerous goods may not be stowed next to or in contact with each other, or in a position which would allow interaction in the event of leakage of the contents. Thus, a package containing Class 3 dangerous goods may not be stowed next to or in contact with a package containing Division 5.1 dangerous goods.

Note 1.— See 2.2.2.2 through 2.2.2.5.

Note 2.— This class or division must not be stowed together with explosives other than those in Division 1.4, Compatibility Group S.

Note 3.— Packages containing dangerous goods with multiple hazards in the class or divisions which require segregation in accordance with Table 7-1 need not be segregated from other packages bearing the same UN number.

...

2.4 LOADING AND SECURING OF DANGEROUS GOODS

See paragraph 5.3.1 of this report:

2.4.1 Loading ~~on~~ of cargo aircraft

...

2.4.1.1 Packages or overpacks of dangerous goods bearing the "Cargo aircraft only" label must be loaded ~~on~~ for carriage by a cargo aircraft in accordance with one of the following provisions:

- a) in a Class C aircraft cargo compartment; or
- b) in a unit load device equipped with a fire detection/suppression system equivalent to that required by the certification requirements of a Class C aircraft cargo compartment as determined by the appropriate national authority (a ULD that is determined by the appropriate national authority to meet the Class C aircraft cargo compartment standards must include "Class C compartment" on the ULD tag); or
- c) in such a manner that in the event of an emergency involving such packages or overpacks, a crew member or other authorized person can access those packages or overpacks, and can handle and, where size and mass permit, separate such packages or overpacks from other cargo; or

d) external carriage by a helicopter; or

e) with the approval of the State of the Operator, for helicopter operations, in the cabin (see Part S-7:2.4 of the Supplement).

Note.— Cargo compartment classification is described in the ICAO document Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods (Doc 9481).

See paragraph 2.8.9 of this report:

2.4.1.2 The requirements of 2.4.1.1 do not apply to:

- a) ~~substances of flammable liquids (Class 3)~~, Packing Group III, other than those with a subsidiary risk of Class 8;
- b) ~~toxic and infectious substances (Class Division 6.1) with no subsidiary risk other than Class 3;~~
- c) infectious substances (Division 6.2);
- ed) radioactive material (Class 7);
- ee) miscellaneous dangerous goods (Class 9).

Note — When transporting goods in a non-pressurized cargo hold, there will be a large pressure differential up to 75 kPa at cruise altitudes. Packages that are filled at a normal atmospheric pressure may not be capable of withstanding this pressure differential. Confirmation of the suitability of the packagings from the shipper should be obtained.

...

See paragraph 3.2.24 of DGP/23-WP/2 and paragraph 2.8.1.2 of this report:

2.6 VISIBILITY OF MARKINGS AND LABELS

During the course of air transport, including storage, markings and labels required by these Instructions must not be covered or obscured by any part of or attachment to the packaging or any other label or marking.

Renumber subsequent paragraphs accordingly

...

Editorial amendment:

2.9.10 SPECIAL PROVISIONS APPLICABLE TO THE CARRIAGE OF RADIOACTIVE MATERIAL

2.9.10.1 Limitation of exposure of persons to radiation

2.9.1.3 The practice should be followed of keeping exposure to radiation as low as reasonably achievable. The separation distances shown in Tables 7-~~23~~ and 7-~~34~~ are minimum values, and greater distances should be used where feasible. As far as possible, packages of radioactive materials stowed in underfloor cargo compartments of passenger aircraft should be placed on the compartment floor.

Note.— The separation distances from packages of radioactive material to passengers specified in Table 7-~~23~~ are based on a 0.02 mSv/h reference dose rate at a seat height of 0.4 m.

2.9.10.2 Activity limits

The total activity in all aircraft, for carriage of LSA material or SCO in Type IP-1, Type IP-2, Type IP-3 or unpackaged, must not exceed the limits shown in Table 7-~~45~~.

2.9.10.3 Stowage during transport and storage in transit

...

2.9.10.3.3 Loading of freight containers and accumulation of packages, overpacks and freight containers must be controlled as follows:

- a) Except under the condition of exclusive use, the total number of packages, overpacks and freight containers aboard a single aircraft must be so limited that the total sum of the transport indexes aboard the aircraft does not exceed the values shown in Table 7-56. For consignments of LSA-I material, there is no limit on the sum of the transport indexes;
- b) Where a consignment is transported under exclusive use, there is no limit on the sum of the transport indexes aboard a single aircraft, but the requirement on minimum segregation distances established in 2.9.6 applies;
- c) The radiation level under routine conditions of transport must not exceed 2 mSv/h at any point on, and 0.1 mSv/h at 2 m from, the external surface of the aircraft;
- d) The total sum of the criticality safety indexes in a freight container and aboard an aircraft must not exceed the values shown in Table 7-67.

...

2.9.10.4 Segregation of packages containing fissile material during transport and storage in transit

2.9.10.4.2 Where the total sum of the criticality safety indexes on board an aircraft or in a freight container exceeds 50, as permitted in Table 7-67, storage must be such as to maintain a spacing of at least 6 m from other groups of packages, overpacks or freight containers containing fissile material or other conveyances carrying radioactive material.

...

2.9.10.6 Separation

2.9.10.6.1 Separation from persons

Categories II — Yellow and III — Yellow packages, overpacks or freight containers must be separated from persons. The minimum separation distances to be applied are shown in Tables 7-23 and 7-34 and these distances are from the surface of the packages, overpacks or freight containers to the nearest inside surface of the passenger cabin or flight deck partitions or floors, irrespective of the duration of the carriage of the radioactive material. Table 7-34 applies only when radioactive material is being carried by a cargo aircraft, and in those circumstances the minimum distances must be applied as above and also to any other areas occupied by persons.

2.9.10.6.2 Separation from undeveloped photographic film

Categories II — Yellow and III — Yellow packages, overpacks or freight containers must be separated from undeveloped photographic films or plates. The minimum separation distances to be applied are shown in Table 7-78 and these distances are from the surface of the packages, overpacks or freight containers to the surface of the packages of undeveloped photographic films or plates.

See paragraph 3.2.23 of DGP/23-WP/2:

...

2.422.13 LOADING OF UN 2211-EXPANDABLE, POLYMERIC BEADS, EXPANDABLE OR UN 3314, PLASTICS MOULDING COMPOUND

A total of not more than 100 kg net mass of expandable polymeric beads (or granules), or plastic moulding materials, referenced to Packing Instruction 957, may be carried in any inaccessible hold on any aircraft.

2.4314 HANDLING OF SELF-REACTIVE SUBSTANCES AND ORGANIC PEROXIDES

During the course of transport, packages or unit load devices containing self-reactive substances of Division 4.1 or organic peroxides of Division 5.2 must be shaded from direct sunlight, stored away from all sources of heat in a well-ventilated area.

See paragraph 2.8.5 of this report:

2.15 HANDLING AND LOADING OF INTERMEDIATE BULK CONTAINERS (IBCs)

During handling and loading of intermediate bulk containers (IBCs), account must be taken of the IBC markings specified in 6:2.4.3, if present.

...

Chapter 4

PROVISION OF INFORMATION

4.1 INFORMATION TO THE PILOT-IN-COMMAND

See paragraph 3.5.11 of DGP/23-WP/2 and paragraph 5.5.1 of this report:

4.1.1 As early as practicable before departure of the aircraft, but in no case later than when the aircraft moves under its own power, ~~the~~ the operator of an aircraft in which dangerous goods are to be carried must:

- ~~a) provide~~ the pilot-in-command ~~as early as practicable before departure of the aircraft,~~ with accurate and legible written or printed information concerning dangerous goods that are to be carried as cargo; and
- ~~b) from 1 January 2014, provide personnel with responsibilities for operational control of the aircraft (e.g. the flight operations officer, flight dispatcher, or designated ground personnel responsible for flight operations) with the same information that is required to be provided to the pilot-in-command (e.g. a copy of the written information provided to the pilot-in-command). Each operator must specify the personnel (job title or function) to be provided this information in their operations manual and/or other appropriate manuals.~~

See paragraph 5.3.1 of this report:

For helicopter operations, with the approval of the State of the Operator, the notification to the pilot-in-command may be abbreviated or be by other means (e.g. radio communication, as part of the working flight documentation such as a journey log or operational flight plan) where circumstances make it impractical to produce written or printed information or on a dedicated form (see Part S-7:4.8 of the Supplement).

See paragraph 5.5.1 of this report:

Note 1.— This includes information about dangerous goods loaded at a previous departure point and which are to be carried on a subsequent flight.

Note 2.— Information required under 4:1.1 b) should be readily available to the operator's personnel whose responsibilities most closely align with the duties of the flight operations officer/flight dispatcher described in Annex 6, Part I, Chapter 4.6. These personnel are intended to provide the information required by Part 7:4.6 to facilitate emergency response.

Note 3.— The provision in 4.1.1 b) is recommended until 1 January 2014 when it will become mandatory.

See paragraph 3.2.41 of DGP/23-WP/3:

4.1.3 The information provided to the pilot-in-command must also include a signed confirmation, or some other indication, from the person responsible for loading the aircraft that there was no evidence of any damage to or leakage from the packages or any leakage from the unit load devices loaded on the aircraft.

...

See paragraph 5.5.1 of this report:

4.1.7 A legible copy of the information provided to the pilot-in-command must be retained on the ground. This copy must have an indication on it, or with it, that the pilot-in-command has received the information. ~~This~~ A copy, or the

information contained in ~~it the notice-to-the-pilot-in-command~~, must be readily accessible to the ~~aerodromes of last departure and next scheduled arrival point, until after the flight to which the information refers~~ flight operations officer, flight dispatcher, or designated ground personnel responsible for flight operations until after the arrival of the flight.

...

See paragraph 3.5.9 of DGP/23-WP/2:

4.1.9 In the event that the volume of information provided to the pilot-in-command is such that in-flight radiotelephony transmission would be impracticable in an emergency situation, a summary of the information should also be provided by the operator, containing at least the quantities and class or division of the dangerous goods in each cargo compartment.

4.1.10 The dangerous goods listed in Table 7-9 need not appear on the information provided to the pilot-in-command.

Table 7-9
Dangerous goods not required to appear on the information to pilot-in-command

<u>UN Number</u>	<u>Item</u>	<u>Reference</u>
<u>n/a</u>	<u>Dangerous goods packed in excepted quantities</u>	<u>3;5.1.1</u>
<u>UN 2807</u>	<u>Magnetized material</u>	<u>Packing instruction 953</u>
<u>UN 2908</u>	<u>Radioactive material, excepted package — empty packaging</u>	<u>1;6.1.5.1 (a)</u>
<u>UN 2909</u>	<u>Radioactive material, excepted package — articles manufactured from natural uranium or depleted uranium or natural thorium</u>	<u>1;6.1.5.1 (a)</u>
<u>UN 2910</u>	<u>Radioactive material, excepted package — limited quantity of material</u>	<u>1;6.1.5.1 (a)</u>
<u>UN 2911</u>	<u>Radioactive material, excepted package — instruments or articles</u>	<u>1;6.1.5.1 (a)</u>
<u>UN 3090</u>	<u>Lithium metal batteries (including lithium alloy batteries) when meeting the requirements of Packing Instruction 968, Section II</u>	<u>Packing instruction 968, Section II</u>
<u>UN 3091</u>	<u>Lithium metal batteries contained in equipment (including lithium alloy batteries) when meeting the requirements of Packing Instruction 970, Section II</u>	<u>Packing instruction 970, Section II</u>
<u>UN 3091</u>	<u>Lithium metal batteries packed with equipment (including lithium alloy batteries) when meeting the requirements of Packing Instruction 969, Section II</u>	<u>Packing instruction 969, Section II</u>
<u>UN 3245</u>	<u>Genetically modified micro-organisms</u>	<u>Packing instruction 959</u>
<u>UN 3245</u>	<u>Genetically modified organisms</u>	<u>Packing instruction 959</u>
<u>UN 3373</u>	<u>Biological substance, Category B</u>	<u>Packing instruction 650, sub-paragraph 11</u>
<u>UN 3480</u>	<u>Lithium ion batteries (including lithium ion polymer batteries) when meeting the requirements of Packing Instruction 965, Section II</u>	<u>Packing instruction 965, Section II</u>
<u>UN 3481</u>	<u>Lithium ion batteries contained in equipment (including lithium ion polymer batteries) when meeting the requirements of Packing Instruction 967, Section II</u>	<u>Packing instruction 967, Section II</u>
<u>UN 3481</u>	<u>Lithium ion batteries packed with equipment (including lithium ion polymer batteries) when meeting the requirements of Packing Instruction 966, Section II</u>	<u>Packing instruction 966, Section II</u>

...

Chapter 4

DOCUMENTATION

...

See paragraph 2.2.2 of this report:

4.4 REPORTING OF DANGEROUS GOODS ACCIDENTS AND INCIDENTS

An operator must report dangerous goods accidents and incidents to the appropriate authorities of the State of the Operator and the State in which the accident or incident occurred in accordance with the reporting requirements of those appropriate authorities.

Note.— This includes incidents involving dangerous goods that are not subject to all or part of the ~~se~~ ~~Technical Instructions through the application of an exception or of a special provision (e.g. an incident involving the short circuiting of a dry cell battery that is required to meet short circuit prevention conditions in a special provision of 3;3).~~

See paragraph 3.2.26 of DGP/23-WP/2:

4.5 REPORTING OF UNDECLARED OR MISDECLARED DANGEROUS GOODS

An operator must report any occasion when undeclared or misdeclared dangerous goods are discovered in cargo or mail. Such a report must be made to the appropriate authorities of the State of the Operator and the State in which this occurred. An operator must also report any occasion when dangerous goods not permitted under 8;1.1.1 are discovered ~~in passengers' baggage either in the baggage or on the person of passengers or crew members~~. Such a report must be made to the appropriate authority of the State in which this occurred.

...

See paragraph 3.2.45 of DGP/23-WP/3 and paragraph 2.8.4 of this report:

4.6 REPORTING OF DANGEROUS GOODS OCCURRENCES

An operator must report any occasion when:

- a) dangerous goods are discovered to have been carried when not loaded, segregated, separated or secured in accordance with Part 7; 2; or
- b) dangerous goods are discovered to have been carried without information having been provided to the pilot-in-command in accordance with Part 7;4.1;

to the State of the Operator and the State of Origin.

Renumber subsequent paragraphs accordingly.

...

4.74.8 CARGO ACCEPTANCE AREAS — PROVISION OF INFORMATION

An operator or the operator's handling agent must ensure that notices giving information about the transport of dangerous goods are sufficient in number, prominently displayed and provided at a visible location(s) at the cargo acceptance points to alert shippers/agents about any dangerous goods that may be contained in their cargo consignment(s). These notices must include visual examples of dangerous goods, including batteries.

~~— Note.— Existing notices that do not include visual examples of dangerous goods, including batteries, may continue to be used until 31 December 2011 after which time the requirements specified above will apply.~~

See paragraph 5.3.1 of this report:

4.84.9 EMERGENCY RESPONSE INFORMATION

The operator must ensure that for consignments for which a dangerous goods transport document is required by these Instructions, appropriate information is immediately available at all times for use in emergency response to accidents and incidents involving dangerous goods in air transport. The information must be available to the pilot-in-command and can be provided by:

- a) the ICAO document *Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods* (Doc 9481); or
- b) any other document which provides ~~similar~~ appropriate information concerning the dangerous goods on board.

Renumber paragraph 4.9 accordingly

See paragraph 3.2.42 of DGP/23-WP/3:

4.1011 RETENTION OF DOCUMENTS

4.10.1 The operator must ensure that at least one copy of the documents appropriate to the transport by air of a consignment of dangerous goods is retained for a minimum period of three months after the flight on which the dangerous goods were transported. As a minimum, the documents which must be retained are the dangerous goods transport documents, the acceptance checklist (when this is in a form which requires physical completion) and the written information to the pilot-in-command.

4.10.2 ~~For each package or overpack containing dangerous goods or freight container containing radioactive material or unit load device or other type of pallet containing dangerous goods as described in 1.4 that was not accepted by an operator due to an error or omission by the shipper in packaging, labelling, marking or documentation, a copy of the documentation as well as the acceptance checklist (when this is in a form which requires physical completion) should be retained for a minimum period of three months after the completion of the acceptance checklist.~~

Note.— Where the documents are kept electronically or in a computer system, they should be capable of being reproduced in a printed manner.

...

Chapter 5

PROVISIONS CONCERNING PASSENGERS AND CREW

5.1 INFORMATION TO PASSENGERS

...

5.1.5 When provision is made for the check-in process to be completed at an airport by a passenger without the involvement of any other person (e.g. automated check-in facility), the operator or the airport operator should ensure that information on the types of dangerous goods which a passenger is forbidden to transport aboard an aircraft is provided to passengers. Information should be in pictorial form and should be such that the check-in process cannot be completed until the passenger has indicated that they have understood the restrictions on dangerous goods in baggage.

~~— Note.— The provisions in 5.1.1, 5.1.4 and 5.1.5 with respect to ticket purchase and check-in on operator websites will become mandatory in the 2013-2014 Edition of these Instructions.~~

...

See paragraph 2.8.3 of this report:

5.2 PASSENGER CHECK-IN PROCEDURES

5.2.1 Operators' check-in staff must be adequately trained to assist them in identifying and detecting dangerous goods carried by passengers other than as permitted in 8;1.1.2.

5.2.2 With the aim of preventing dangerous goods, which passengers are not permitted to have, from being taken aboard an aircraft in passengers' baggage or on their person, check-in staff should seek confirmation from a passenger that they are not carrying dangerous goods that are not permitted, and seek further confirmation about the contents of any item where there are suspicions that it may contain dangerous goods that are not permitted. Many innocuous-looking items may contain dangerous goods, and a list of general descriptions which, experience has shown, often apply to such items is shown in 7;6.

5.2.3 With the aim of preventing dangerous goods which a passenger is not permitted to have from being taken aboard an aircraft in excess baggage consigned as cargo, any organization or enterprise accepting excess baggage consigned as cargo should seek confirmation from the passenger, or a person acting on behalf of the passenger, that the excess baggage does not contain dangerous goods that are not permitted and seek further confirmation about the contents of any item where there are suspicions that it may contain dangerous goods that are not permitted.

...

See paragraph 5.3.1 of this report:

Chapter 7

HELICOPTER OPERATIONS

Note.— The requirements in this chapter are in addition to the other provisions of the Technical Instructions that apply to all operators (e.g. Part 7 and Part 1;4).

7.1.1 Due to the differences in the type of operations carried out by helicopters compared with aeroplanes, there may be circumstances when the full provisions of the Technical Instructions are not appropriate or necessary, due to the operations involving un-manned sites, remote locations, mountainous areas or construction sites etc. In such circumstances and when appropriate, the State of the Operator may grant an approval in order to permit the carriage of dangerous goods without all of the normal requirements of the Technical Instructions being fulfilled. When States other than the State of the Operator have notified ICAO that they require prior approval of such operations, approval must also be obtained from the States of Origin and destination, as appropriate.

7.1.2 When loading dangerous goods for open external carriage by a helicopter, consideration should also be given to the type of packaging used and to the protection of those packagings, where necessary, from the effects of airflow and weather (e.g. by damage from rain or snow), in addition to the general loading provisions of 7;2.

7.1.3 When dangerous goods are carried suspended from a helicopter, the operator must ensure that consideration is given to the dangers of static discharge upon landing or release of the load.

7.1.4 When helicopters are carrying passengers, in accordance with Part S-7;2.2.4 of the Supplement, the State of the Operator may grant an approval to permit the carriage of dangerous goods either:

- a) in the cabin, when those dangerous goods are associated with and accompanied by the passengers; or
- b) in cargo compartments that do not meet the requirements of Part 7;2.1.1.

Part 8

PROVISIONS CONCERNING PASSENGERS AND CREW

...

1.1 DANGEROUS GOODS CARRIED BY PASSENGERS OR CREW

See paragraph 2.3.3 of this report:

1.1.1 Except as otherwise provided in 1.1.2, dangerous goods, including excepted packages of radioactive material, must not be carried by passengers or crew members, either as or in carry-on baggage or checked baggage or on their person. Except as provided for in 1.1.2 y) below, security type equipment such as attaché cases, cash boxes, cash bags, etc., incorporating dangerous goods, for example lithium batteries or pyrotechnic material, are totally forbidden; see entry in Table 3-1. Personal medical oxygen devices that utilize liquid oxygen are ~~prohibited~~ forbidden either as or in carry-on baggage or checked baggage or on the person. Electroshock weapons (e.g. Tasers) containing dangerous goods such as explosives, compressed gases, lithium batteries, etc. are ~~prohibited~~ forbidden in carry-on baggage or checked baggage or on the person.

...

See paragraph 2.9.1 of this report and Secretariat editorial changes to turn the letter listing which appears in the 2011-2012 Edition into a number list (to allow for more than the 26 letters of the alphabet):

Table 8-1. Provisions for dangerous goods carried by passengers or crew

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			
Medical necessities						
a1) Small gaseous oxygen or air cylinders required for medical use	Yes	Yes	Yes	Yes	Yes	1a) no more than 5 kg gross mass per cylinder; 2b) cylinders, valves and regulators, where fitted, must be protected from damage, which could cause inadvertent release of the contents; and 3c) the pilot-in-command must be informed of the number of oxygen or air cylinders loaded on board the aircraft and their loading location(s).
Devices containing liquid oxygen	No	No	No	n/a	n/a	Devices containing liquid oxygen are forbidden in carry-on baggage, checked baggage or on the person.
b2) Cylinders of a gas of Division 2.2 worn for the operation of mechanical limbs	Yes	Yes	Yes	No	No	Spare cylinders of a similar size are also allowed if required to ensure an adequate supply for the duration of the journey.

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			
e3) Non-radioactive medicinal articles (including aerosols)	Yes	Yes	Yes	No	No	<p>4a) no more than 0.5 kg or 0.5 L total net quantity per single article;</p> <p>2b) release valves on aerosols must be protected by a cap or other suitable means to prevent inadvertent release of the contents; and</p> <p>3c) no more than 2 kg or 2 L total net quantity of all articles mentioned in e3), j10) and m13) (e.g. four aerosol cans of 500 mL each) per person.</p>
e4) Radioisotopic cardiac pacemakers or other devices, including those powered by lithium batteries implanted into a person	n/a	n/a	Yes	No	No	Must be implanted into a person as the result of medical treatment.
Radio-pharmaceuticals contained within the body of a person	n/a	n/a	Yes	No	No	Must be as the result of medical treatment.

See paragraphs 2.9.4, 5.1.8 and 5.1.9 of this report:

e5) Battery-powered wheelchairs or other similar mobility aids with non-spillable <u>wet</u> batteries <u>or with batteries which comply with Special Provision A123</u>	Yes	No	No	Yes	(see <u>5 e) iv</u>)	<p>4a) for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg);</p> <p>2b) <u>non-spillable batteries</u> must comply with Special Provision A67 or the vibration and pressure differential tests of Packing Instruction 872;</p> <p>3c) <u>the operator must verify that:</u></p> <p>Reorder paragraphs i), ii) and iii) as indicated:</p> <p>ii) <u>the battery terminals must be are</u> protected from short circuits (e.g. by being enclosed within a battery container);</p> <p>4i) <u>the battery must be is</u> securely attached to the wheelchair or mobility aid;</p> <p>5iii) <u>electrical circuits have been isolated, the operator(s) must ensure that:</u></p> <p>wheelchairs or other battery-powered mobility aids are carried in such a manner so as to prevent unintentional activation; and</p> <p>they are protected from being damaged by the movement of</p>
--	-----	----	----	-----	-----------------------	--

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			
						<p>baggage, mail, stores or other cargo;</p> <p>d) devices must be carried in a manner such that they are protected from being damaged by the movement of baggage, mail, stores or other cargo;</p> <p>e) where a battery-powered wheelchair or other similar mobility aid is specifically designed to allow its battery(ies) to be removed by the user (e.g. collapsible):</p> <p>i) the battery(ies) must be removed. The wheelchair or mobility aid may then be carried as checked baggage without restriction;</p> <p>ii) the removed battery(ies) must be carried in strong, rigid packagings which must be stowed in the cargo compartment;</p> <p>iii) the battery(ies) must be protected from short circuit;</p> <p>iv) the pilot-in-command must be informed of the location of the packed battery; and</p> <p>f) it is recommended that passengers make advance arrangements with each operator.</p>

See paragraphs 2.9.4, 5.1.8 and 5.1.9 of this report:

f6) Battery-powered wheelchairs or other similar mobility aids with spillable batteries	Yes	No	No	Yes	Yes	<p>1a) for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg);</p> <p>2b) the wheelchair or mobility aid can be loaded, stowed, secured and unloaded always in an upright position and the;</p> <p>c) the operator must verify that:</p> <p style="padding-left: 20px;">Reorder paragraphs i), ii) and iii) as indicated:</p> <p>ii) battery terminals are protected from short circuits (e.g. by being enclosed within a battery container); and</p> <p>i) and the battery is securely attached to the wheelchair or mobility aid;</p> <p>iii) electrical circuits have been isolated;</p> <p>3d) the operator(s) devices must ensure that wheelchairs or other battery-powered mobility aids are be</p>
--	-----	----	----	-----	-----	---

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			
						<p>carried in such a manner so as to prevent unintentional activation and such that they are protected from being damaged by the movement of baggage, mail, stores or other cargo;</p> <p>4e) if the wheelchair or mobility aid cannot be loaded, stowed, secured and unloaded always in an upright position, the battery(ies) must be removed and; the wheelchair or mobility aid may then be carried as checked baggage without restriction;</p> <p>5f) the removed battery must be carried in strong, rigid packagings as follows:</p> <ul style="list-style-type: none"> — the packagings must be leaktight, impervious to battery fluid and be protected against upset by securing them to pallets or by securing them in cargo compartments using appropriate means of securement (other than by bracing with freight or baggage) such as by use of restraining straps, brackets or holders; — batteries must be protected against short circuits, secured upright in these packagings and surrounded by compatible absorbent material sufficient to absorb their total liquid contents; <hr/> <p>See paragraph 3.2.29 of DGP/23-WP/2:</p> <hr/> <ul style="list-style-type: none"> — these packagings must be marked “Battery, wet, with wheelchair” or “Battery, wet, with mobility aid” and be labelled with a “Corrosive” label (Figure 5-22) and with a package orientation labels (Figure 5-26) as required by 5.3.3; <p>6g) <u>the pilot-in-command must be informed of the location of the wheelchair or mobility aid with an installed battery or the location of a packed battery.</u></p> <p>h) it is recommended that passengers make advance arrangements with each operator; also unless batteries are nonspillable they should be fitted, where feasible, with spill-resistant vent caps.</p>

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			

See paragraph 3.2.51 of DGP/23-WP/3 and paragraphs 2.9.4, 5.1.8 and 5.1.9 of this report:

<p>g7) Lithium-ion battery-powered wheelchairs or other similar mobility aids</p>	<p><u>Yes</u></p>	<p>No* <u>(see 7 e)</u></p>	<p>No</p>	<p>Yes</p>	<p>Yes</p>	<p>4a) for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg);</p> <p>2b) the batteries must be of a type which meets the requirements of each test in the UN <i>Manual of Tests and Criteria</i>, Part III, sub-section 38.3;</p> <p>3c) <u>the operator must verify that:</u></p> <p style="padding-left: 20px;">Reorder paragraphs i), ii) and iii) as indicated:</p> <p style="padding-left: 20px;">ii) <u>the battery terminals must be are</u> protected from short circuits (e.g. by being enclosed within a battery container); and</p> <p style="padding-left: 20px;">i) <u>the battery is</u> securely attached to the <u>wheelchair or</u> mobility aid; and</p> <p style="padding-left: 20px;">iii) <u>electrical circuits have been isolated;</u></p> <p>4d) the operator(s) devices must ensure that such mobility aids are be carried in a manner so as to prevent unintentional activation and such that they are protected from being damaged by the movement of baggage, mail, stores or other cargo; and</p> <p>e) <u>where a battery-powered wheelchair or other similar mobility aid is specifically designed to allow its battery(ies) to be removed by the user (e.g. collapsible):</u></p> <p style="padding-left: 20px;">i) the battery(ies) must be removed and carried in the passenger cabin;</p> <p style="padding-left: 20px;">ii) the battery terminals must be protected from short circuit (by insulating the terminals e.g. by taping over exposed terminals);</p> <p style="padding-left: 20px;">iii) the battery must be protected from damage (e.g. by placing each battery in a protective pouch);</p> <p style="padding-left: 20px;">iv) removal of the battery from the device must be performed by following the instructions of the manufacturer or device owner;</p> <p style="padding-left: 20px;">v) the battery must not exceed 300 Wh;</p>
---	-------------------	---------------------------------	-----------	------------	------------	--

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			
						<p>vi) <u>a maximum of one spare battery not exceeding 300 Wh or two spares not exceeding 160 Wh each may be carried; and</u></p> <p>e) <u>the pilot-in-command must be informed of the location of the lithium ion battery(ies).</u></p> <p>f) it is recommended that passengers make advance arrangements with each operator.</p>
<p>h8) Portable medical electronic devices (Automated External Defibrillators (AED), Nebulizer, Continuous Positive Airway Pressure (CPAP), etc.) containing lithium metal or lithium ion cells or batteries</p>	No	Yes	Yes	Yes	No	<p>4a) carried by passengers for medical use;</p> <p>2b) no more than two spare batteries may be carried. Spare batteries must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch); and</p> <p>3c) each installed or spare battery:</p> <ul style="list-style-type: none"> — must be of a type which meets the requirements of each test in the UN <i>Manual of Tests and Criteria</i>, Part III, <u>sub</u>-section 38.3; and — must not exceed the following: <ul style="list-style-type: none"> — for lithium metal batteries, a lithium content of not more than 8 grams; or — for lithium ion batteries, a watt-hour rating of not more than 160 Wh.
<p>i9) Small medical or clinical thermometer which contains mercury</p>	Yes	Yes	Yes	No	No	<p>4a) no more than one per person;</p> <p>2b) must be for personal use; and</p> <p>3c) must be in its protective case.</p>

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			
Articles used in dressing or grooming						
<u>j10</u>) Toiletry articles (including aerosols)	Yes	Yes	Yes	No	No	<p><u>4a</u>) the term “toiletry articles (including aerosols)” is intended to include such items as hair sprays, perfumes and colognes;</p> <p><u>2b</u>) no more than 0.5 kg or 0.5 L total net quantity per single article;</p> <p><u>3c</u>) release valves on aerosols must be protected by a cap or other suitable means to prevent inadvertent release of the contents; and</p> <p><u>4d</u>) no more than 2 kg or 2 L total net quantity of all articles mentioned in <u>e3</u>), <u>j10</u>) and <u>m13</u>) (e.g. four aerosol cans of 500 mL each) per person.</p>
<u>k11</u>) Hair curlers containing hydrocarbon gas	Yes	Yes	Yes	No	No	<p><u>4a</u>) no more than one per person;</p> <p><u>2b</u>) the safety cover must be securely fitted over the heating element; and</p> <p><u>3c</u>) gas refills for such curlers must not be carried.</p>
Consumer articles						
<u>l12</u>) Alcoholic beverages containing more than 24 per cent but not more than 70 per cent alcohol by volume	Yes	Yes	Yes	No	No	<p><u>4a</u>) must be in retail packagings;</p> <p><u>2b</u>) no more than 5 L per individual receptacle; and</p> <p><u>3c</u>) no more than 5 L total net quantity per person for such beverages.</p> <p><i>Note.— Alcoholic beverages containing not more than 24 per cent alcohol by volume are not subject to any restrictions.</i></p>
<u>m13</u>) Aerosols in Division 2.2, with no subsidiary risk, for sporting or home use	Yes	No	No	No	No	<p><u>4a</u>) no more than 0.5 kg or 0.5 L total net quantity per single article;</p> <p><u>2b</u>) release valves on aerosols must be protected by a cap or other suitable means to prevent inadvertent release of the contents; and</p> <p><u>3c</u>) no more than 2 kg or 2 L total net quantity of all articles mentioned in <u>e3</u>), <u>j10</u>) and <u>m13</u>) (e.g. four aerosol cans of 500 mL each) per person.</p>
<u>n14</u>) Securely packaged cartridges in Division 1.4S (UN 0012 or UN 0014 only);	Yes	No	No	Yes	No	<p><u>4a</u>) no more than 5 kg gross mass per person for that person’s own use;</p> <p><u>2b</u>) must not include ammunition with explosive or incendiary projectiles; and</p> <p><u>3c</u>) allowances for more than one person must not be combined into one or more packages.</p>

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			
e15) Small packet of safety matches	No	No	Yes	No	No	4a) no more than one per person; and 2b) intended for use by an individual.
"Strike anywhere" matches	No	No	No	n/a	n/a	Forbidden
Small cigarette lighter	No	No	Yes	No	No	4a) no more than one per person; 2b) intended for use by an individual; and 3c) does not contain unabsorbed liquid fuel (other than liquefied gas).
Lighter fuel and lighter refills	No	No	No	n/a	n/a	Forbidden

See paragraph 2.9.6 of this report:

<u>Premixing burner lighters (see the Glossary of Terms in Attachment 2) which contain liquefied gas, such as butane</u>	<u>No</u>	<u>No</u>	<u>Yes</u>	<u>n/a</u>	<u>n/a</u>	<u>Must have a means of protection against unintentional activation such as a child resistant lock or a mechanism of activation with two or more actions.</u>
--	-----------	-----------	------------	------------	------------	---

See paragraph 2.9.3 of this report:

p16) Battery-powered equipment capable of generating extreme heat, which could cause a fire if activated (e.g. underwater high intensity lamps)	Yes	Yes	No	Yes	No	4a) the heat producing component or <u>and</u> the battery is packed separately so as to prevent activation during transport <u>are isolated from each other by the removal of the heat producing component, the battery or another component (e.g. fuse); and</u> 2b) any battery which has been removed must be protected against short circuit <u>(by placement in original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch).</u>
--	-----	-----	----	-----	----	--

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			

See paragraph 2.9.5 of this report:

<p>g17) Avalanche rescue backpack <u>containing a cylinder of compressed gas of Division 2.2</u></p>	Yes	Yes	No	Yes	No	<p>1a) no more than one per person;</p> <p>2b) <u>may contain a</u> pyrotechnic trigger mechanism <u>which</u> must not contain more than 200 mg net of Division 1.4S;</p> <p>3) <u>the cylinder of compressed gas of Division 2.2 must not exceed 250 mL;</u></p> <p>4c) the backpack must be packed in such a manner that it cannot be accidentally activated; and</p> <p>5d) the airbags within the backpack must be fitted with pressure relief valves.</p>
<p>f18) Small cartridges fitted into a self-inflating life-jacket</p>	Yes	Yes	Yes	Yes	No	<p>1a) limited to carbon dioxide or another suitable gas in Division 2.2;</p> <p>2b) must be for inflation purposes;</p> <p>3c) no more than two small cylinders of carbon dioxide or another suitable gas in Division 2.2 fitted in the life-jacket, per person; and</p> <p>4d) no more than two spare cartridges.</p>

See paragraph 3.2.48 of DGP/23-WP/3:

<p><u>Small cartridges fitted into other devices</u></p>	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	<u>No</u>	<p><u>a) no more than four small cylinders of carbon dioxide or other suitable gas in Division 2.2, per person; and</u></p> <p><u>b) the water capacity of each cylinder must not exceed 50 mL.</u></p> <p><u>Note.— For carbon dioxide, a gas cylinder with a water capacity of 50 mL is equivalent to a 28 g cartridge.</u></p>
--	------------	------------	------------	------------	-----------	---

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			

619 Portable electronic devices (such as watches, calculating machines, cameras, cellular phones, laptop computers,) camcorders, etc.)

See paragraph 5.1.3 of this report:

Portable electronic devices containing lithium metal or lithium ion cells or batteries	Yes	Yes	Yes	No	No	<p>4a) carried by passengers or crew for personal use;</p> <p>2b) should be carried as carry-on baggage; and</p> <p>3c) each battery must not exceed the following:</p> <ul style="list-style-type: none"> — for lithium metal batteries, a lithium content of not more than 2 grams; or — for lithium ion batteries, a watt-hour rating of not more than 100 Wh_i; <p>See paragraph 5.1.3 of this report:</p> <p><u>d) if devices are carried in checked baggage, measures must be taken to prevent unintentional activation; and</u></p> <p>See paragraph 3.2.53 of DGP/23-WP/3:</p> <p><u>e) batteries and cells must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, sub-section 38.3.</u></p>
Spare batteries for portable electronic devices containing lithium metal or lithium ion cells or batteries	No	Yes	Yes	No	No	<p>4a) carried by passengers or crew for personal use;</p> <p>2b) must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch);</p> <p>3c) each battery must not exceed the following:</p> <ul style="list-style-type: none"> — for lithium metal batteries, a lithium content of not more than 2 grams; or — for lithium ion batteries, a watt-hour rating of not more than 100 Wh_i; and

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			
						See paragraph 3.2.53 of DGP/23-WP/3: <u>d) batteries and cells must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, sub-section 38.3.</u>
Portable electronic devices containing lithium ion batteries exceeding a watt-hour rating of 100 Wh but not exceeding 160 Wh	Yes	Yes	Yes	Yes	No	1a) carried by passengers or crew for personal use; 2b) should be carried as carry-on baggage; and See paragraph 3.2.53 of DGP/23-WP/3: <u>c) batteries and cells must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, sub-section 38.3.</u>
Spare batteries for portable electronic devices containing lithium ion batteries exceeding a watt-hour rating of 100 Wh but not exceeding 160 Wh	No	Yes	Yes	Yes	No	1a) carried by passengers or crew for personal use; 2b) no more than two individually protected spare batteries per person; 3c) must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch); and See paragraph 3.2.53 of DGP/23-WP/3: <u>d) batteries and cells must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, sub-section 38.3.</u>

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			
<p>20) Fuel cells used to power portable electronic devices (for example cameras, cellular phones, laptop computers and camcorders)</p> <p>See paragraph 3.2.49 of DGP/23-WP/3:</p>	No	Yes	Yes	No	No	<p>4a) fuel cell cartridges may only contain flammable liquids, corrosive substances, liquefied flammable gas, water reactive substances or hydrogen in metal hydride;</p> <p>2b) refuelling of fuel cells on board an aircraft is not permitted except that the installation of a spare cartridge is allowed;</p> <p>3c) the maximum quantity of fuel in any fuel cell or fuel cell cartridge must not exceed:</p> <ul style="list-style-type: none"> — for liquids 200 mL; — for solids 200 grams; — for liquefied gases, 120 mL for non-metallic fuel cell cartridges or 200 mL for metal fuel cell or fuel cell cartridges; and — for hydrogen in metal hydride, the fuel cell or fuel cell cartridges must have a water capacity of 120 mL or less; <p>See paragraph 2.5.4 of this report:</p> <p>4d) each fuel cell and each fuel cell cartridge must conform to IEC-PAS 62282-6-1 <u>62282-6-100</u> Ed. 1 <u>[and Amendment 1]</u>, and must be marked with a manufacturer's certification that it conforms to the specification. In addition, each fuel cell cartridge must be marked with the maximum quantity and type of fuel in the cartridge;</p> <p>5e) fuel cell cartridges containing hydrogen in metal hydride must comply with the requirements in Special Provision A162;</p> <p>6f) no more than two spare fuel cell cartridges may be carried by a passenger;</p> <p>7g) fuel cell containing fuel are permitted in carry-on baggage only;</p> <p>See paragraph 2.5.4 of this report:</p> <p>8h) interaction between fuel cells and integrated batteries in a device must conform to IEC-PAS 62282-6-1 <u>62282-6-100</u> Ed. 1 <u>[and Amendment 1]</u>. Fuel cell whose sole function is to charge a battery in the device are not permitted;</p>
<p>Spare fuel cell cartridges containing flammable liquids, corrosive substances, liquefied flammable gas or hydrogen in metal hydride</p> <hr style="border-top: 1px dashed black;"/> <p>Spare fuel cell cartridges containing water reactive substances</p>	Yes	Yes	Yes	No	No	
	No	Yes	Yes	No	No	

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			
						<p>9i) fuel cells must be of a type that will not charge batteries when the portable electronic device is not in use and must be durably marked by the manufacturer: "APPROVED FOR CARRIAGE IN AIRCRAFT CABIN ONLY" to so indicate; and</p> <p>40j) in addition to the languages which may be required by the State of Origin for the markings specified above, English should be used.</p>
<p>421 Dry Ice)</p>	Yes	Yes	No	Yes	No	<p>4a) no more than 2.5 kg per person;</p> <p>2b) used to pack perishables that are not subject to these Instructions;</p> <p>3c) the package must permit the release of carbon dioxide gas; and</p> <p>4d) when carried in checked baggage, each package must be marked:</p> <ul style="list-style-type: none"> — "DRY ICE" or "CARBON DIOXIDE, SOLID"; and — the net weight of dry ice or an indication that the net weight is 2.5 kg or less.
<p>422 A mercurial barometer or) mercurial thermometer</p>	No	Yes	No	Yes	Yes	<p>4a) must be carried by a representative of a government weather bureau or similar official agency; and</p> <p>2b) must be packed in a strong outer packaging, having a sealed inner liner or a bag of strong leakproof and puncture-resistant material impervious to mercury, which will prevent the escape of mercury from the package irrespective of its position.</p>
<p>423 Instruments containing) radioactive material (i.e. chemical agent monitor (CAM) and/or rapid alarm and identification device monitor (RAID-M))</p>	Yes	Yes	No	Yes	No	<p>4a) the instruments must not exceed the activity limits specified in Table 2-15 of these Instructions;</p> <p>2b) must be securely packed and without lithium batteries; and</p> <p>3c) must be carried by staff members of the Organization for the Prohibition of Chemical Weapons (OPCW) on official travel.</p>
<p>424 Energy efficient light bulbs)</p>	Yes	Yes	Yes	No	No	<p>4a) when in retail packaging; and</p> <p>2b) intended for personal or home use.</p>

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			

See paragraph 2.2.2 of this report:

<u>25) Permeation devices for calibrating air quality monitoring equipment</u>	<u>Yes</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>Must comply with Special Provision A41.</u>
--	------------	-----------	-----------	-----------	-----------	--

See paragraphs 2.9.2 and 2.2.2 of this report:

<u>26) Portable electronic equipment containing a non-spillable battery meeting the requirements of Special Provision A67</u>	<u>Yes</u>	<u>Yes</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>a) the battery must not have a voltage greater than 12 volts and a watt-hour rating of not greater than 100 Wh; and</u> <u>b) the equipment must be either protected from inadvertent activation, or the battery disconnected and exposed terminals insulated.</u>
<u>Spare non-spillable batteries meeting the requirements of Special Provision A67</u>	<u>Yes</u>	<u>Yes</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>a) the battery must not have a voltage greater than 12 volts and a watt-hour rating of not greater than 100 Wh;</u> <u>b) the battery must be protected from short circuit by the effective insulation of exposed terminals; and</u> <u>c) no more than two individually protected batteries per person.</u>

See paragraph 2.2.2 of this report:

<u>27) Internal combustion engines or fuel cell engines</u>	<u>Yes</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>Must comply with Special Provision A70</u>
<u>28) Non-infectious specimens</u>	<u>Yes</u>	<u>Yes</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>Must comply with Special Provision A180</u>
<u>29) Insulated packagings containing refrigerated liquid nitrogen</u>	<u>Yes</u>	<u>Yes</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>Must comply with Special Provision A152</u>

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			
Security-type equipment						
<p>y30) Security type equipment such as attaché cases, cash boxes, cash bags, etc. incorporating dangerous goods as part of this equipment, for example lithium batteries or pyrotechnic material</p>	Yes	No	No	Yes	No	<p>a1) the equipment must be equipped with an effective means of preventing accidental activation;</p> <p>2b) if the equipment contains an explosive or pyrotechnic substance or an explosive article, this article or substance must be excluded from Class 1 by the appropriate national authority of the State of Manufacture in compliance with Part 2;1.5.2.1;</p> <p>3c) if the equipment contains lithium cells or batteries, these cells or batteries must comply with the following restrictions:</p> <ul style="list-style-type: none"> — for a lithium metal cell, the lithium content is not more than 1 g; — for a lithium metal or lithium alloy battery, the aggregate lithium content is not more than 2 g; — for lithium ion cells, the Watt-hour rating (see the Glossary of Terms in Attachment 2) is not more than 20 Wh; — for lithium ion batteries, the Watt-hour rating is not more than 100 Wh; — each cell or battery is of the type proven to meet the requirements of each test in the UN <i>Manual of Tests and Criteria</i>, Part III, sub-section 38.3; <p>4d) if the equipment contains gases to expel dye or ink,</p> <ul style="list-style-type: none"> — only gas cartridges and receptacles, small, containing gas with a capacity not exceeding 50 mL, containing no constituents subject to these Instructions other than a Division 2.2 gas, are allowed; — The release of gas must not cause extreme annoyance or discomfort to crew members so as to prevent the correct performance of assigned duties; and — In case of accidental activation, all hazardous effects must be confined within the equipment and must not produce extreme noise; and <p>5e) security type equipment that is defective or that has been damaged is forbidden for transport.</p>

...

Attachment 2 GLOSSARY OF TERMS

Glossary of terms

<i>Term and explanation</i>	<i>UN Number(s), when relevant</i>
...	
See paragraph 2.9.7 of this report:	
<p>ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE (ARTICLES, EEI). Articles that contain only extremely insensitive detonating substances and which demonstrate a negligible probability of accidental initiation or propagation (under normal conditions of transport).</p> <p><i>Note.— An extremely insensitive detonating substance is a substance which although capable of sustaining a detonation has demonstrated through tests that it is so insensitive that there is very little probability of accidental initiation.</i></p>	0486
...	
<p>AUXILIARY EXPLOSIVE COMPONENT, isolated. <u>An "isolated auxiliary explosive component" is a small device that explosively performs an operation related to the article's functioning, other than its main explosive loads' performance. Functioning of the component does not cause any reaction of the main explosive loads contained within the article.</u></p>	
...	
<p>EXPLOSIVE, EXTREMELY INSENSITIVE DETONATING SUBSTANCE (EIDS) (EIS). A substance which, although capable of sustaining a detonation, has demonstrated through tests that it is so insensitive that there is very little probability of accidental initiation.</p>	—
...	
See paragraph 3.2.1 of DGP/23-WP/2 and paragraph 3.2.60 of DGP/23-WP/3:	
<p>LITHIUM BATTERY OR LITHIUM CELLS. A battery is one or more cells which are electrically connected together by a permanent means. A cell is a single encased electromechanical unit which exhibits a voltage differential across its two terminals. Two or more cells which are electrically connected together and fitted with devices necessary for use, for example, case, terminals, marking and protective devices. A single cell battery is considered a "cell" and must be tested according to the testing requirements for "cells" for the purposes of the Technical Instructions and the UN Manual of Tests and Criteria (see also the explanation for "lithium cell").</p> <p><i>Note.— Units that are commonly referred to as "battery packs", "modules" or "battery assemblies" having the primary function of providing a source of power to another piece of equipment are for the purposes of the Technical Instructions and the UN Manual of Tests and Criteria treated as batteries.</i></p>	3090, 3091, <u>3480, 3481</u>
<p>LITHIUM CELL. <u>A single encased electrochemical unit (one positive and one negative electrode) which exhibits a voltage differential across its two terminals. Under the Technical Instructions and the UN Manual of Tests and Criteria, to the extent the encased electrochemical unit meets the definition of "cell" herein, it is a "cell", not a "battery", regardless of whether the unit is termed a "battery" or a "single cell battery" outside of the Technical Instructions and the UN Manual of Tests and Criteria.</u></p>	3090, 3091, <u>3480, 3481</u>
...	
See paragraph 2.9.6 of this report:	
<p>PREMIXING BURNER LIGHTER. <u>Gas lighter in which fuel and air are mixed before being supplied for combustion, such as lighters producing a blue flame.</u></p>	

ATTACHMENT A**PROPOSED AMENDMENTS TO TABLE 3-1 — UN NUMBER ORDER**

The format for displaying the amendments to Table 3-1 is as follows:

Modified entries

- both the original and the modified entry are printed;
- both modified and non-modified fields are printed;
- the original entry is printed in a shaded box with an asterisk in the left margin;
- check boxes are printed above the field(s) which have been modified;
- the modified entry is shown without shading below the original entry; and
- the “≠” symbol is printed in the left margin.

Deleted entries

- deleted entries are displayed in a shaded box with an asterisk in the left margin;
- check boxes are shown above each field; and
- the “>” symbol is displayed in the left margin below the shaded box to indicate that the entry will be deleted.

New entries

New entries are shown without shading with the “+” symbol in the left margin.

Table 3-1. Dangerous Goods List

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Aldehyde, see Acetaldehyde												
≠ Aldehyde, see Aldehydes, n.o.s. (UN No. 1989)												
<input checked="" type="checkbox"/>												
* Alkyl aluminium halides, see Aluminium alkyl halides												
≠ Alkyl aluminium halides, see Organometallic substance, solid, pyrophoric, water-reactive (UN No. 3393) or Organometallic substance, liquid, pyrophoric, water-reactive (UN No. 3394)												
<input checked="" type="checkbox"/>												
* Asbestos †, see Blue asbestos or Brown asbestos												
≠ Asbestos †, see Blue asbestos, Brown asbestos or White asbestos												
<input checked="" type="checkbox"/>												
* Battery, lithium, see Lithium batteries, etc.												
≠ Battery, lithium ion, see Lithium ion batteries, etc. (UN Nos. 3480, 3481)												
<input checked="" type="checkbox"/>												
* Bifluorides, n.o.s., see Hydrogendifluorides, n.o.s.												
≠ Bifluorides, n.o.s., see Hydrogendifluorides, solid, n.o.s. (UN No. 1740)												
<input checked="" type="checkbox"/>												
* Butyl lithium, see Lithium alkyls												
≠ Butyl lithium, see Organometallic substance, liquid, pyrophoric, water reactive (UN No. 3394)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* But-1-yne, see Ethyl acetylene												
≠ But-1-yne, see Ethylacetylene, stabilized (UN No. 2452)												
<input checked="" type="checkbox"/>												
* Casinghead gasoline, see Natural gasoline												
≠ Casinghead gasoline, see Gasoline or Petrol or Motor spirit (UN No. 1203)												
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
* Electric storage batteries, see Batteries, etc.												
>												
<input checked="" type="checkbox"/>												
* Magnesium chloride and chlorate mixture, see Chlorate and magnesium chloride mixture												
≠ Magnesium chloride and chlorate mixture, see Chlorate and magnesium chloride mixture, solid (UN No. 1459) or Chlorate and magnesium chloride mixture solution (UN No. 3407)												
<input checked="" type="checkbox"/>												
* Chlorotrifluoroethylene, see Trifluorochloroethylene, inhibited												
≠ Chlorotrifluoroethylene, see Trifluorochloroethylene, stabilized (UN No. 1082)												
<input checked="" type="checkbox"/>												
* Cyanides, organic, toxic, n.o.s., see Nitriles, toxic, n.o.s.												
≠ Cyanides, organic, toxic, n.o.s., see Nitriles, liquid, toxic, n.o.s. (UN No. 3276) or Nitriles, solid, toxic, n.o.s. (UN No. 3439)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Deanol, see Dimethylethanolamine												
≠ Deanol, see 2-Dimethylaminoethanol (UN No. 2051)												
<input checked="" type="checkbox"/>												
* 2-Diethylaminoethanol, see Diethylaminoethanol												
≠ Diethylaminoethanol, see 2-Diethylaminoethanol (UN. 2686)												
<input checked="" type="checkbox"/>												
* Diethylcarbinol, see Amyl alcohols												
≠ Diethylcarbinol, see Pentanol s (UN No. 1105)												
<input checked="" type="checkbox"/>												
* Dinitrochlorobenzenes, see Chlorodinitrobenzenes												
≠ Dinitrochlorobenzenes, see Chlorodinitrobenzenes, liquid (UN No. 1577) or Chlorodinitrobenzenes, solid (UN No. 3441)												
<input checked="" type="checkbox"/>												
* Fertilizer with ammonium nitrate, n.o.s., see Ammonium nitrate fertilizer, n.o.s.												
≠ Fertilizer with ammonium nitrate, n.o.s., see Ammonium nitrate based fertilizer (UN No. 2067) or Ammonium nitrate based fertilizers (UN No. 2071)												
<input checked="" type="checkbox"/>												
* Fluoric acid, see Hydrofluoric acid, solution , etc.												
≠ Fluoric acid, see Hydrofluoric acid (UN No. 1790)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Heavy hydrogen, see Deuterium												
≠ Heavy hydrogen, see Deuterium, compressed (UN No. 1957)												
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
* Isopropyl bromide, see 2-Bromopropane												
>												
<input checked="" type="checkbox"/>												
* Jet tappers, without detonator, see Charges, shaped, commercial												
≠ Jet tappers, without detonator, see Charges, shaped (UN Nos. 0059, 0439, 0440, 0441)												
<input checked="" type="checkbox"/>												
* Lead (II) perchlorate, see Lead perchlorate												
≠ Lead (II) perchlorate, see Lead perchlorate, solid (UN No. 1470) or Lead perchlorate solution (UN No. 3408)												
<input checked="" type="checkbox"/>												
* 1-Methoxy-2-nitrobenzene, see Nitroanisole												
≠ 1-Methoxy-2-nitrobenzene, see Nitroanisoles, liquid (UN No. 2730) or Nitroanisoles, solid (UN No. 3458)												
<input checked="" type="checkbox"/>												
* 1-Methoxy-3-nitrobenzene, see Nitroanisole												
≠ 1-Methoxy-3-nitrobenzene, see Nitroanisoles, liquid (UN No. 2730) or Nitroanisoles, solid (UN No. 3458)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* <input checked="" type="checkbox"/> 1-Methoxy-4-nitrobenzene, see Nitroanisole												
≠ 1-Methoxy-4-nitrobenzene, see Nitroanisoles, liquid (UN No. 2730) or Nitroanisoles, solid (UN No. 3458)												
* <input checked="" type="checkbox"/> beta-Methyl acrolein, see Crotonaldehyde, stabilized												
≠ beta-Methyl acrolein, see Crotonaldehyde or Crotonaldehyde, stabilized (UN No. 1143)												
* <input checked="" type="checkbox"/> Methyl amyl ketone, see Amyl methyl ketone												
≠ Methyl amyl ketone, see n-Amyl methyl ketone (UN No. 1110)												
* <input checked="" type="checkbox"/> Methyl ethyl ketone peroxide(s), more than 50%		FORBIDDEN										
≠ Methyl ethyl ketone peroxide(s), 48% or more if available oxygen above 10% and not more than 10.7% with or without water		FORBIDDEN										
* <input checked="" type="checkbox"/> Methyl mercaptopropionaldehyde, see 4-Thia-pentanal												
≠ Methyl mercaptopropionaldehyde, see 4-Thiapentanal (UN No. 2785)												
* <input checked="" type="checkbox"/> Methylstyrene, inhibited, see Vinytoluenes, inhibited												
≠ Methylstyrene, stabilized, see Vinytoluenes, stabilized (UN No. 2618)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Methyl vinyl benzene, inhibited, see Vinytoluene, inhibited												
≠ Methyl vinyl benzene, stabilized, see Vinytoluenes, stabilized (UN No. 2618)												
<input checked="" type="checkbox"/>												
* Non-activated carbon, see Carbon, animal or vegetable origin												
≠ Non-activated carbon, see Carbon (UN No. 1361)												
<input checked="" type="checkbox"/>												
* Non-activated charcoal, see Carbon, animal or vegetable origin												
≠ Non-activated charcoal, see Carbon (UN No. 1361)												
<input checked="" type="checkbox"/>												
* Orthophosphoric acid, see Phosphoric acid												
≠ Orthophosphoric acid, see Phosphoric acid, solution (UN No. 1805) or Phosphoric acid, solid (UN No. 3453)												
<input checked="" type="checkbox"/>												
* Phenylethylene, see Styrene monomer, inhibited												
≠ Phenylethylene, see Styrene monomer, stabilized (UN No. 2055)												
<input checked="" type="checkbox"/>												
* Picrotoxin, see Toxins, extracted from living sources, n.o.s.												
≠ Picrotoxin, see Toxins, extracted from living sources, liquid, n.o.s. (UN No. 3172) or Toxins, extracted from living sources, solid, n.o.s. (UN No. 3462)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Potassium bifluoride, see Potassium hydrogendifluoride												
≠ Potassium bifluoride, see Potassium hydrogendifluoride, solid (UN No. 1811)												
<input checked="" type="checkbox"/>												
* Shaped charges, see Charges, shaped, commercial												
≠ Shaped charges, see Charges, shaped (UN Nos. 0059, 0439, 0440, 0441)												
<input checked="" type="checkbox"/>												
* Sodium potassium alloys, see Potassium sodium alloys												
≠ Sodium potassium alloys, see Potassium sodium alloys, liquid (UN No. 1422) or Potassium sodium alloys, solid (UN No. 3404)												
<input checked="" type="checkbox"/>												
* Sulphuretted hydrogen, see Hydrogen sulphide, liquefied												
≠ Sulphuretted hydrogen, see Hydrogen sulphide (UN No. 1053)												
<input checked="" type="checkbox"/>												
* Tetrafluorodichloroethane, see Dichlorotetrafluoroethane												
≠ Tetrafluorodichloroethane, see 1,2-Dichloro-1,1,2,2-tetrafluoroethane or Refrigerant gas R 114 (UN No. 1958)												
<input checked="" type="checkbox"/>												
* Trichloroacetaldehyde, see Chloral, anhydrous, stabilized												
≠ Trichloroacetaldehyde, see Chloral, anhydrous, stabilized (UN No. 2075)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Trichloroacetaldehyde, see Chloral, anhydrous, inhibited												
≠ Trichloroacetaldehyde, see Chloral, anhydrous, stabilized (UN No. 2075)												
<input checked="" type="checkbox"/>												
* 2,4,4-Trimethylpentene-1, see Diisobutylene, isomeric compounds												
≠ 2,4,4-Trimethylpentene-1, see Diisobutylene, isomeric compounds (UN No. 2050)												
<input checked="" type="checkbox"/>												
* 2,4,4-Trimethylpentene-2, see Diisobutylene, isomeric compounds												
≠ 2,4,4-Trimethylpentene-2, see Diisobutylene, isomeric compounds (UN No. 2050)												
<input checked="" type="checkbox"/>												
* Villiamite, see Sodium fluoride												
≠ Villiamite, see Sodium fluoride, solid (UN No. 1690)												
+ Aluminium alkyl halides, liquid, see Organometallic substance, liquid, pyrophoric, water reactive (UN No. 3394)												
+ Aluminium alkyl halides, solid, see Organometallic substance, solid, pyrophoric, water reactive (UN No. 3393)												
+ Aluminium alkyl hydrides, see Organometallic substance, liquid, pyrophoric, water-reactive (UN No. 3394)												
+ Aluminium alkyls, see Organometallic substance, liquid, pyrophoric, water-reactive (UN No. 3394)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
+ Diethylzinc, see Organometallic substance, liquid, pyrophoric, water-reactive (UN No. 3394)												
+ Dimethylzinc, see Organometallic substance, liquid, pyrophoric, water-reactive (UN No. 3394)												
+ Lithium alkyls, liquid, see Organometallic substance, liquid, pyrophoric, water-reactive (UN No. 3394)												
+ Lithium alkyls, solid, see Organometallic substance, solid, pyrophoric, water-reactive (UN No. 3393)												
+ Lithium alloy batteries, see Lithium metal batteries, etc. (UN Nos. 3090, 3091)												
+ Lithium ion polymer batteries, see Lithium ion batteries, etc. (UN Nos. 3480, 3481)												
+ Magnesium alkyls, see Organometallic substance, liquid, pyrophoric, water-reactive (UN No. 3394)												
+ Magnesium diphenyl, see Organometallic substance, solid, pyrophoric, water-reactive (UN No. 3393)												
+ Formaldehyde solution with less than 25 per cent formaldehyde						A189						
+ Cupric chlorate, see Copper chlorate (UN No. 2721)												
+ 3-Pentanol, see Pentanoles (UN No. 1105)												
+ tert-Amylperoxy-3,5,5-trimethylhexanoate		FORBIDDEN										
+ Disuccinic acid peroxide 72% or more		FORBIDDEN										
+ Battery, lithium metal, see Lithium metal batteries, etc. (UN Nos. 3090, 3091)												
+ Cartridges for tools, blank †	0014	1.4S		Explosive 1.4				E0	130	25 kg	130	100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Ammonia, anhydrous	1005	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Ammonia, anhydrous	1005	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Boron trifluoride	1008	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	<input checked="" type="checkbox"/> A2			FORBIDDEN		FORBIDDEN	
≠ Boron trifluoride	1008	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2 A191			FORBIDDEN		FORBIDDEN	
* Carbon monoxide, compressed	1016	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Carbon monoxide, compressed	1016	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Chlorine	1017	2.3	5.1 8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Chlorine	1017	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Coal gas, compressed †	1023	2.3	2.1		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Coal gas, compressed †	1023	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Cyanogen	1026	2.3	2.1		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Cyanogen	1026	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Ethylene oxide	1040	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3 US 4	A2 A131			FORBIDDEN		FORBIDDEN	
≠ Ethylene oxide	1040	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3 US 4	A2 A131			FORBIDDEN		FORBIDDEN	
* Fluorine, compressed	1045	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Fluorine, compressed	1045	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Hydrogen bromide, anhydrous	1048	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Hydrogen bromide, anhydrous	1048	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Hydrogen chloride, anhydrous	1050	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Hydrogen chloride, anhydrous	1050	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Hydrogen sulphide	1053	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Hydrogen sulphide	1053	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Methyl bromide with not more than 2% chloropicrin	1062	2.3			<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Methyl bromide with not more than 2% chloropicrin	1062	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Methyl mercaptan	1064	2.3	2.1		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Methyl mercaptan	1064	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Dinitrogen tetroxide	1067	2.3	5.1 8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Dinitrogen tetroxide	1067	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Nitrogen dioxide	1067	2.3	5.1 8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Nitrogen dioxide	1067	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Nitrosyl chloride	1069	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Nitrosyl chloride	1069	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Oil gas, compressed †	1071	2.3	2.1	Gas toxic & Gas flammable	<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A1		E0	FORBIDDEN		200	25 kg
≠ Oil gas, compressed †	1071	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A1		E0	FORBIDDEN		200	25 kg
* Phosgene	1076	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Phosgene	1076	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Sulphur dioxide	1079	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Sulphur dioxide	1079	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Trifluorochloroethylene, stabilized	1082	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Trifluorochloroethylene, stabilized	1082	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Dimethyldichlorosilane	1162	3	8	Liquid flammable & Corrosive			II	<input checked="" type="checkbox"/> E2	<input checked="" type="checkbox"/> 377	<input checked="" type="checkbox"/> 1 L	377	5 L
≠ Dimethyldichlorosilane	1162	3	8	Liquid flammable & Corrosive			II	E0	FORBIDDEN		377	5 L
* Ethyltrichlorosilane	1196	3	8	Liquid flammable & Corrosive			II	<input checked="" type="checkbox"/> E2	<input checked="" type="checkbox"/> 377	<input checked="" type="checkbox"/> 1 L	377	5 L
≠ Ethyltrichlorosilane	1196	3	8	Liquid flammable & Corrosive			II	E0	FORBIDDEN		377	5 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Methyltrichlorosilane	1250	3	8	Liquid flammable & Corrosive	<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3		II	<input checked="" type="checkbox"/> E2	<input checked="" type="checkbox"/> 377	<input checked="" type="checkbox"/> 1 L	377	5 L
≠ Methyltrichlorosilane	1250	3	8	Liquid flammable & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3		II	E0	FORBIDDEN		377	5 L
* Trimethylchlorosilane	1298	3	8	Liquid flammable & Corrosive			II	<input checked="" type="checkbox"/> E2	<input checked="" type="checkbox"/> 377	<input checked="" type="checkbox"/> 1 L	377	5 L
≠ Trimethylchlorosilane	1298	3	8	Liquid flammable & Corrosive			II	E0	FORBIDDEN		377	5 L
* Vinyltrichlorosilane	1305	3	8	Liquid flammable & Corrosive	<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3		II	<input checked="" type="checkbox"/> E2	<input checked="" type="checkbox"/> 377	<input checked="" type="checkbox"/> 1 L	377	5 L
≠ Vinyltrichlorosilane	1305	3	8	Liquid flammable & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3		II	E0	FORBIDDEN		377	5 L
* Chloropicrin and methyl bromide mixture with more than 2% chloropicrin	1581	2.3			<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Chloropicrin and methyl bromide mixture with more than 2% chloropicrin	1581	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Chloropicrin and methyl chloride mixture	1582	2.3			☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Chloropicrin and methyl chloride mixture	1582	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Cyanogen chloride, stabilized	1589	2.3	8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Cyanogen chloride, stabilized	1589	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Hexaethyl tetraphosphate and compressed gas mixture	1612	2.3			☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Hexaethyl tetraphosphate and compressed gas mixture	1612	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Nitric oxide, compressed	1660	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Nitric oxide, compressed	1660	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/> * Thallium compound, n.o.s.	1707	6.1		Toxic	US 4	A6	II	E4	669 Y644	25 kg 1 kg	676	100 kg
≠ Thallium compound, n.o.s.*	1707	6.1		Toxic	US 4	A6	II	E4	669 Y644	25 kg 1 kg	676	100 kg
* Boron trichloride	1741	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Boron trichloride	1741	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Chlorine trifluoride	1749	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Chlorine trifluoride	1749	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/> * Iodine monochloride	1792	8		Corrosive	<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A1	II	E0	FORBIDDEN		863	50 kg
≠ Iodine monochloride, solid	1792	8		Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A1	II	E0	FORBIDDEN		863	50 kg
<input checked="" type="checkbox"/> * Silicon tetrafluoride	1859	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Silicon tetrafluoride	1859	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/> * Diborane	1911	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Diborane	1911	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Compressed gas, toxic, flammable, n.o.s.*	1953	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Compressed gas, toxic, flammable, n.o.s.*	1953	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Compressed gas, toxic, n.o.s.*	1955	2.3			<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Compressed gas, toxic, n.o.s.*	1955	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Insecticide gas, toxic, n.o.s.*	1967	2.3			<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Insecticide gas, toxic, n.o.s.*	1967	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Insecticide gas, n.o.s.*	1968	2.2		Gas non-flammable				E1	<input checked="" type="checkbox"/> 200 or 203 Y203	<input checked="" type="checkbox"/> 75 kg 30 kg G	<input checked="" type="checkbox"/> 200 or 203	150 kg
≠ Insecticide gas, n.o.s.*	1968	2.2		Gas non-flammable				E1	200	75 kg	200	150 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Nitric oxide and dinitrogen tetroxide mixture	1975	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Nitric oxide and dinitrogen tetroxide mixture	1975	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Nitric oxide and nitrogen dioxide mixture	1975	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Nitric oxide and nitrogen dioxide mixture	1975	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Gas cartridges (toxic) without a release device, non-refillable	2037	2.3			<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Gas cartridges (toxic) without a release device, non-refillable	2037	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Gas cartridges (toxic & corrosive) without a release device, non-refillable	2037	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Gas cartridges (toxic & corrosive) without a release device, non-refillable	2037	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Gas cartridges (toxic & flammable) without a release device, non-refillable	2037	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Gas cartridges (toxic & flammable) without a release device, non-refillable	2037	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Gas cartridges (toxic, flammable & corrosive) without a release device, non-refillable	2037	2.3	2.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Gas cartridges (toxic, flammable & corrosive) without a release device, non-refillable	2037	2.3	2.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Gas cartridges (toxic & oxidizing) without a release device, non-refillable	2037	2.3	5.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Gas cartridges (toxic & oxidizing) without a release device, non-refillable	2037	2.3	5.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Gas cartridges (toxic, oxidizing & corrosive) without a release device, non-refillable	2037	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Gas cartridges (toxic, oxidizing & corrosive) without a release device, non-refillable	2037	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Receptacles, small, containing gas (toxic) without a release device, non-refillable	2037	2.3			<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Receptacles, small, containing gas (toxic) without a release device, non-refillable	2037	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Receptacles, small, containing gas (toxic, flammable & corrosive) without a release device, non-refillable	2037	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Receptacles, small, containing gas (toxic, flammable & corrosive) without a release device, non-refillable	2037	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Receptacles, small, containing gas (toxic & flammable) without a release device, non-refillable	2037	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Receptacles, small, containing gas (toxic & flammable) without a release device, non-refillable	2037	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Receptacles, small, containing gas (toxic & corrosive) without a release device, non-refillable	2037	2.3	2.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Receptacles, small, containing gas (toxic & corrosive) without a release device, non-refillable	2037	2.3	2.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Receptacles, small, containing gas (toxic & oxidizing) without a release device, non-refillable	2037	2.3	5.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Receptacles, small, containing gas (toxic & oxidizing) without a release device, non-refillable	2037	2.3	5.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Receptacles, small, containing gas (toxic, oxidizing & corrosive) without a release device, non-refillable	2037	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Receptacles, small, containing gas (toxic, oxidizing & corrosive) without a release device, non-refillable	2037	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/> * Ammonium nitrate fertilizers	2071	9		Miscellaneous		A89 A90	III		958 Y958	200 kg 30 kg G	958	200 kg
≠ Ammonium nitrate based fertilizers	2071	9		Miscellaneous		A89 A90	III		958 Y958	200 kg 30 kg G	958	200 kg
* Arsine	2188	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Arsine	2188	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Dichlorosilane	2189	2.3	2.1 8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Dichlorosilane	2189	2.3	2.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Oxygen difluoride, compressed	2190	2.3	5.1 8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Oxygen difluoride, compressed	2190	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Sulphuryl fluoride	2191	2.3			☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Sulphuryl fluoride	2191	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Germane	2192	2.3	2.1		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Germane	2192	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Selenium hexafluoride	2194	2.3	8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Selenium hexafluoride	2194	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Tellurium hexafluoride	2195	2.3	8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Tellurium hexafluoride	2195	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Tungsten hexafluoride	2196	2.3	8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Tungsten hexafluoride	2196	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Hydrogen iodide, anhydrous	2197	2.3	8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Hydrogen iodide, anhydrous	2197	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Phosphorus pentafluoride	2198	2.3	8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Phosphorus pentafluoride	2198	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Phosphine	2199	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Phosphine	2199	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Hydrogen selenide, anhydrous	2202	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Hydrogen selenide, anhydrous	2202	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Carbonyl sulphide	2204	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Carbonyl sulphide	2204	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Dimethyl disulphide	2381	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Liquid flammable			II	<input checked="" type="checkbox"/> E2	<input checked="" type="checkbox"/> 353 Y341	<input checked="" type="checkbox"/> 5 L 1 L	<input checked="" type="checkbox"/> 364	<input checked="" type="checkbox"/> 60 L
≠ Dimethyl disulphide	2381	3	6.1				II	E0	FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Carbonyl fluoride	2417	2.3	8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Carbonyl fluoride	2417	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Hexafluoroacetone	2420	2.3	8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Hexafluoroacetone	2420	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Nitrogen trioxide	2421	2.3	5.1 8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Nitrogen trioxide	2421	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Methylchlorosilane	2534	2.3	2.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Methylchlorosilane	2534	2.3	2.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Chlorine pentafluoride	2548	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Chlorine pentafluoride	2548	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* <input checked="" type="checkbox"/> Alkylsulphuric acids*	2571	8		Corrosive			II	E2	851 Y840	1 L 0.5 L	855	30 L
≠ Alkylsulphuric acids	2571	8		Corrosive			II	E2	851 Y840	1 L 0.5 L	855	30 L
* Stibine	2676	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Stibine	2676	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Batteries, wet, filled with acid, electric storage †	2794	8		Corrosive		A51 A164 A183		E0	870	<input checked="" type="checkbox"/> 30 kg G	870	No limit
≠ Batteries, wet, filled with acid, electric storage †	2794	8		Corrosive		A51 A164 A183		E0	870	30 kg	870	No limit
* Batteries, wet, filled with alkali, electric storage †	2795	8		Corrosive		A51 A164 A183		E0	870	<input checked="" type="checkbox"/> 30 kg G	870	No limit
≠ Batteries, wet, filled with alkali, electric storage †	2795	8		Corrosive		A51 A164 A183		E0	870	30 kg	870	No limit
* Mercury	2809	8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Corrosive	US 4		III	E0	868	35 kg	868	35 kg
≠ Mercury	2809	8	6.1	Corrosive & Toxic	US 4		III	E0	868	35 kg	868	35 kg
* Bromine chloride	2901	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Bromine chloride	2901	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Chlorosilanes, flammable, corrosive, n.o.s.	2985	3	8	Liquid flammable & Corrosive			II	<input checked="" type="checkbox"/> E2	<input checked="" type="checkbox"/> 377	<input checked="" type="checkbox"/> 1 L	377	5 L
≠ Chlorosilanes, flammable, corrosive, n.o.s.	2985	3	8	Liquid flammable & Corrosive			II	E0	FORBIDDEN		377	5 L
* Batteries, dry, containing potassium hydroxide solid, electric storage †	3028	8		Corrosive		<input checked="" type="checkbox"/> A183		E0	871	<input checked="" type="checkbox"/> 25 kg G	871	<input checked="" type="checkbox"/> 230 kg G
≠ Batteries, dry, containing potassium hydroxide solid, electric storage †	3028	8		Corrosive		A183 A184		E0	871	25 kg	871	230 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Trifluoroacetyl chloride	3057	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Trifluoroacetyl chloride	3057	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Nitroglycerin solution in alcohol with more than 1% but not more than 5% nitroglycerin	3064	3		Liquid flammable	<input checked="" type="checkbox"/> BE 3		II	E0	FORBIDDEN		371	5 L
≠ Nitroglycerin solution in alcohol with more than 1% but not more than 5% nitroglycerin	3064	3		Liquid flammable	BE 3	A188	II	E0	FORBIDDEN		371	5 L
* Perchloryl fluoride	3083	2.3	5.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Perchloryl fluoride	3083	2.3	5.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Lithium metal batteries (including lithium alloy batteries) †	3090	9		Miscellaneous	US 2 US 3	A88 A99 A154 A164 A183	II	E0	968	<input checked="" type="checkbox"/> 2.5 kg G	968	<input checked="" type="checkbox"/> 35 kg G
≠ Lithium metal batteries (including lithium alloy batteries) †	3090	9		Miscellaneous	US 2 US 3	A88 A99 A154 A164 A183	II	E0	968	2.5 kg	968	35 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Lithium metal batteries contained in equipment (including lithium alloy batteries) †	3091	9		Miscellaneous	US 2 US 3	<input checked="" type="checkbox"/> A48 A99 A154 A164 A181	II	E0	<input checked="" type="checkbox"/> see 970	<input checked="" type="checkbox"/> 970	<input checked="" type="checkbox"/> see 970	<input checked="" type="checkbox"/> 970
≠ Lithium metal batteries contained in equipment (including lithium alloy batteries) †	3091	9		Miscellaneous	US 2 US 3	A48 A99 A154 A164 A181 A185	II	E0	970	5 kg	970	35 kg
* Lithium metal batteries packed with equipment (including lithium alloy batteries) †	3091	9		Miscellaneous	US 2 US 3	<input checked="" type="checkbox"/> A99 A154 A164 A181	II	E0	<input checked="" type="checkbox"/> see 969	<input checked="" type="checkbox"/> 969	<input checked="" type="checkbox"/> see 969	<input checked="" type="checkbox"/> 969
≠ Lithium metal batteries packed with equipment (including lithium alloy batteries) †	3091	9		Miscellaneous	US 2 US 3	A99 A154 A181 A185	II	E0	969	5 kg	969	35 kg
* Liquefied gas, toxic, flammable, n.o.s.*	3160	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Liquefied gas, toxic, flammable, n.o.s.*	3160	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Liquefied gas, toxic, n.o.s.*	3162	2.3			<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2				FORBIDDEN	FORBIDDEN	
≠ Liquefied gas, toxic, n.o.s.*	3162	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2				FORBIDDEN	FORBIDDEN	
* Polyester resin kit †	3269	3		Liquid flammable		A66 A163	II III	E0 E0	370 Y370 370 Y370	<input checked="" type="checkbox"/> 5 kg 1 kg 5 kg 1 kg	370 370	5 kg 5 kg
≠ Polyester resin kit †	3269	3		Liquid flammable		A66 A163	II III	E0 E0	370 Y370 370 Y370	5 kg 1 kg 10 kg 5 kg	370 370	5 kg 10 kg
* Nitriles, toxic, liquid, n.o.s.*	3276	6.1		Toxic	<input checked="" type="checkbox"/>	A3 A4 A137	I II III	E5 E4 E1	652 654 Y641 655 Y642	1 L 5 L 1 L 60 L 2 L	658 662 663	30 L 60 L 220 L
≠ Nitriles, liquid, toxic, n.o.s.*	3276	6.1		Toxic		A3 A4 A137	I II III	E5 E4 E1	652 654 Y641 655 Y642	1 L 5 L 1 L 60 L 2 L	658 662 663	30 L 60 L 220 L
* Organophosphorus compound, toxic, liquid, n.o.s.*	3278	6.1		Toxic	<input checked="" type="checkbox"/>	A3 A4 A6 A137	I II III	E5 E4 E1	652 654 Y641 655 Y642	1 L 5 L 1 L 60 L 2 L	658 662 663	30 L 60 L 220 L
≠ Organophosphorus compound, liquid, toxic, n.o.s.*	3278	6.1		Toxic		A3 A4 A6 A137	I II III	E5 E4 E1	652 654 Y641 655 Y642	1 L 5 L 1 L 60 L 2 L	658 662 663	30 L 60 L 220 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Organometallic compound, toxic, liquid, n.o.s.*	3282	6.1		Toxic		A3 A4	I II III	E5 E4 E1	652 654 Y641 655 Y642	1 L 5 L 1 L 60 L 2 L	658 662 663	30 L 60 L 220 L
≠ Organometallic compound, liquid, toxic, n.o.s.*	3282	6.1		Toxic		A3 A4	I II III	E5 E4 E1	652 654 Y641 655 Y642	1 L 5 L 1 L 60 L 2 L	658 662 663	30 L 60 L 220 L
* Cells, containing sodium †	3292	4.3		Danger if wet		A94	II	E0	492	<input checked="" type="checkbox"/> 25 kg G	492	No limit
≠ Cells, containing sodium †	3292	4.3		Danger if wet		A94	II	E0	492	25 kg	492	No limit
* Ethylene oxide and carbon dioxide mixture, with more than 87% ethylene oxide	3300	2.3	2.1		<input checked="" type="checkbox"/>	AU 1 CA 7 GB 3 IR 3 NL 1 US 3 US 4	A2		FORBIDDEN		FORBIDDEN	
≠ Ethylene oxide and carbon dioxide mixture, with more than 87% ethylene oxide	3300	2.3	2.1			AU 1 CA 7 IR 3 NL 1 US 3 US 4	A2		FORBIDDEN		FORBIDDEN	
* Compressed gas, toxic, oxidizing, n.o.s.*	3303	2.3	5.1		<input checked="" type="checkbox"/>	AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2		FORBIDDEN		FORBIDDEN	
≠ Compressed gas, toxic, oxidizing, n.o.s.*	3303	2.3	5.1			AU 1 CA 7 IR 3 NL 1 US 3	A2		FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Compressed gas, toxic, corrosive, n.o.s.*	3304	2.3	8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Compressed gas, toxic, corrosive, n.o.s.*	3304	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Compressed gas, toxic, flammable, corrosive, n.o.s.*	3305	2.3	2.1 8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Compressed gas, toxic, flammable, corrosive, n.o.s.*	3305	2.3	2.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Compressed gas, toxic, oxidizing, corrosive, n.o.s.*	3306	2.3	5.1 8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Compressed gas, toxic, oxidizing, corrosive, n.o.s.*	3306	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Liquefied gas, toxic, oxidizing, n.o.s.*	3307	2.3	5.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Liquefied gas, toxic, oxidizing, n.o.s.*	3307	2.3	5.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Liquefied gas, toxic, corrosive, n.o.s.*	3308	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Liquefied gas, toxic, corrosive, n.o.s.*	3308	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Liquefied gas, toxic, flammable, corrosive, n.o.s.*	3309	2.3	2.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Liquefied gas, toxic, flammable, corrosive, n.o.s.*	3309	2.3	2.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Liquefied gas, toxic, oxidizing, corrosive, n.o.s.*	3310	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Liquefied gas, toxic, oxidizing, corrosive, n.o.s.*	3310	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Ammonia solution, relative density less than 0.880 at 15°C in water, with more than 50% ammonia	3318	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Ammonia solution, relative density less than 0.880 at 15°C in water, with more than 50% ammonia	3318	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Aviation regulated liquid, n.o.s.*	3334	9		Miscellaneous		A27	III	E1	964 Y964	<input checked="" type="checkbox"/> No limit 30 kg G	964	<input checked="" type="checkbox"/> No limit
≠ Aviation regulated liquid, n.o.s.*	3334	9		Miscellaneous		A27	III	E1	964 Y964	450 L 30 kg G	964	450 L
* Aviation regulated solid, n.o.s.*	3335	9		Miscellaneous		A27	III	E1	956 Y956	<input checked="" type="checkbox"/> No limit 30 kg G	956	<input checked="" type="checkbox"/> No limit
≠ Aviation regulated solid, n.o.s.*	3335	9		Miscellaneous		A27	III	E1	956 Y956	400 kg 30 kg G	956	400 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Insecticide gas, toxic, flammable, n.o.s.*	3355	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Insecticide gas, toxic, flammable, n.o.s.*	3355	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Chlorosilanes, toxic, corrosive, n.o.s.*	3361	6.1	8	Toxic & Corrosive			II	<input checked="" type="checkbox"/> E4	<input checked="" type="checkbox"/> 681	<input checked="" type="checkbox"/> 1 L	681	30 L
≠ Chlorosilanes, toxic, corrosive, n.o.s.*	3361	6.1	8	Toxic & Corrosive			II	E0	FORBIDDEN		681	30 L
* Chlorosilanes, toxic, corrosive, flammable, n.o.s.*	3362	6.1	3 8	Toxic & Liquid flammable & Corrosive			II	<input checked="" type="checkbox"/> E4	<input checked="" type="checkbox"/> 681	<input checked="" type="checkbox"/> 1 L	681	30 L
≠ Chlorosilanes, toxic, corrosive, flammable, n.o.s.*	3362	6.1	3 8	Toxic & Liquid flammable & Corrosive			II	E0	FORBIDDEN		681	30 L
<input checked="" type="checkbox"/> * Toxic by inhalation liquid, n.o.s.* with an inhalation toxicity lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3381	6.1							FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3381	6.1							FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/> * Toxic by inhalation liquid, n.o.s.* with an inhalation toxicity lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3382	6.1							FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3382	6.1							FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, flammable, n.o.s.* with an inhalation toxicity lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3383	6.1	3							FORBIDDEN	FORBIDDEN	
≠ Toxic by inhalation liquid, flammable, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3383	6.1	3							FORBIDDEN	FORBIDDEN	
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, flammable, n.o.s.* with an inhalation toxicity lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3384	6.1	3							FORBIDDEN	FORBIDDEN	
≠ Toxic by inhalation liquid, flammable, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3384	6.1	3							FORBIDDEN	FORBIDDEN	
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, water-reactive, n.o.s.* with an inhalation toxicity lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3385	6.1	4.3							FORBIDDEN	FORBIDDEN	
≠ Toxic by inhalation liquid, water-reactive, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3385	6.1	4.3							FORBIDDEN	FORBIDDEN	
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, water-reactive, n.o.s.* with an inhalation toxicity lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3386	6.1	4.3							FORBIDDEN	FORBIDDEN	
≠ Toxic by inhalation liquid, water-reactive, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3386	6.1	4.3							FORBIDDEN	FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, oxidizing, n.o.s.* with an inhalation toxicity lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3387	6.1	5.1							FORBIDDEN	FORBIDDEN	
≠ Toxic by inhalation liquid, oxidizing, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3387	6.1	5.1							FORBIDDEN	FORBIDDEN	
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, oxidizing, n.o.s.* with an inhalation toxicity lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3388	6.1	5.1							FORBIDDEN	FORBIDDEN	
≠ Toxic by inhalation liquid, oxidizing, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3388	6.1	5.1							FORBIDDEN	FORBIDDEN	
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, corrosive, n.o.s.* with an inhalation toxicity lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3389	6.1	8							FORBIDDEN	FORBIDDEN	
≠ Toxic by inhalation liquid, corrosive, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3389	6.1	8							FORBIDDEN	FORBIDDEN	
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, corrosive, n.o.s.* with an inhalation toxicity lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3390	6.1	8							FORBIDDEN	FORBIDDEN	
≠ Toxic by inhalation liquid, corrosive, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3390	6.1	8							FORBIDDEN	FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Nitriles, toxic, solid, n.o.s.*	3439	6.1		Toxic		A3 A5	I II III	E5 E4 E1	666 669 Y644 670 Y645	5 kg 25 kg 1 kg 100 kg 10 kg	673 676 677	50 kg 100 kg 200 kg
≠ Nitriles, solid, toxic, n.o.s.*	3439	6.1		Toxic		A3 A5	I II III	E5 E4 E1	666 669 Y644 670 Y645	5 kg 25 kg 1 kg 100 kg 10 kg	673 676 677	50 kg 100 kg 200 kg
<input checked="" type="checkbox"/>												
* Organophosphorus compound, toxic, solid, n.o.s.*	3464	6.1		Toxic		A3 A5 A6	I II III	E5 E4 E1	666 669 Y644 670 Y645	5 kg 25 kg 1 kg 100 kg 10 kg	673 676 677	50 kg 100 kg 200 kg
≠ Organophosphorus compound, solid, toxic, n.o.s.*	3464	6.1		Toxic		A3 A5 A6	I II III	E5 E4 E1	666 669 Y644 670 Y645	5 kg 25 kg 1 kg 100 kg 10 kg	673 676 677	50 kg 100 kg 200 kg
<input checked="" type="checkbox"/>												
* Organometallic compound, toxic, solid, n.o.s.*	3467	6.1		Toxic		A3 A5	I II III	E5 E4 E1	666 669 Y644 670 Y645	5 kg 25 kg 1 kg 100 kg 10 kg	673 676 677	50 kg 100 kg 200 kg
≠ Organometallic compound, solid, toxic, n.o.s.*	3467	6.1		Toxic		A3 A5	I II III	E5 E4 E1	666 669 Y644 670 Y645	5 kg 25 kg 1 kg 100 kg 10 kg	673 676 677	50 kg 100 kg 200 kg
<input checked="" type="checkbox"/>												
* Hydrogen in a metal hydride storage system	3468	2.1		Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A1 A143 A176		E0	FORBIDDEN		214	<input checked="" type="checkbox"/> 100 kg G
≠ Hydrogen in a metal hydride storage system	3468	2.1		Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A1 A143 A176		E0	FORBIDDEN		214	100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Hydrogen in a metal hydride storage system contained in equipment	3468	2.1		Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A1 A143 A176		E0	FORBIDDEN		214	<input checked="" type="checkbox"/> 100 kg G
≠ Hydrogen in a metal hydride storage system contained in equipment	3468	2.1		Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A1 A143 A176		E0	FORBIDDEN		214	100 kg
* Hydrogen in a metal hydride storage system packed with equipment	3468	2.1		Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A1 A143 A176		E0	FORBIDDEN		214	<input checked="" type="checkbox"/> 100 kg G
≠ Hydrogen in a metal hydride storage system packed with equipment	3468	2.1		Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A1 A143 A176		E0	FORBIDDEN		214	100 kg
* Lithium ion batteries (including lithium ion polymer batteries)	3480	9		Miscellaneous	US 3	<input checked="" type="checkbox"/> A88 A99 A154 A164 A183	II	E0	965	<input checked="" type="checkbox"/> 5 kg G	965	<input checked="" type="checkbox"/> 35 kg G
≠ Lithium ion batteries (including lithium ion polymer batteries)	3480	9		Miscellaneous	US 3	A51 A88 A99 A154 A164 A183	II	E0	965	5 kg	965	35 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Lithium ion batteries contained in equipment (including lithium ion polymer batteries)	3481	9		Miscellaneous	US 3	<input checked="" type="checkbox"/> A48 A99 A154 A164 A181	II	E0	<input checked="" type="checkbox"/> see 967	<input checked="" type="checkbox"/> 967	<input checked="" type="checkbox"/> see 967	<input checked="" type="checkbox"/> 967
≠ Lithium ion batteries contained in equipment (including lithium ion polymer batteries)	3481	9		Miscellaneous	US 3	A48 A99 A154 A164 A181 A185	II	E0	967	5 kg	967	35 kg
* Lithium ion batteries packed with equipment (including lithium ion polymer batteries)	3481	9		Miscellaneous	US 3	<input checked="" type="checkbox"/> A88 A99 A154 A164 A181	II	E0	<input checked="" type="checkbox"/> see 966	<input checked="" type="checkbox"/> 966	<input checked="" type="checkbox"/> see 966	<input checked="" type="checkbox"/> 966
≠ Lithium ion batteries packed with equipment (including lithium ion polymer batteries)	3481	9		Miscellaneous	US 3	A88 A99 A154 A164 A181 A185	II	E0	966	5 kg	966	35 kg
<input checked="" type="checkbox"/> * Toxic by inhalation liquid, flammable, corrosive, n.o.s.* with an inhalation toxicity lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3488	6.1	3 8						FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, flammable, corrosive, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3488	6.1	3 8						FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, flammable, corrosive, n.o.s.* with an inhalation toxicity lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3489	6.1	3 8								FORBIDDEN	FORBIDDEN
≠ Toxic by inhalation liquid, flammable, corrosive, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3489	6.1	3 8								FORBIDDEN	FORBIDDEN
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, water-reactive, flammable, n.o.s.* with an inhalation toxicity lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3490	6.1	3 4.3								FORBIDDEN	FORBIDDEN
≠ Toxic by inhalation liquid, water-reactive, flammable, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3490	6.1	3 4.3								FORBIDDEN	FORBIDDEN
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, water-reactive, flammable, n.o.s.* with an inhalation toxicity lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3491	6.1	3 4.3								FORBIDDEN	FORBIDDEN
≠ Toxic by inhalation liquid, water-reactive, flammable, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3491	6.1	3 4.3								FORBIDDEN	FORBIDDEN
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
* Toxic by inhalation liquid, corrosive, flammable, n.o.s.* with an inhalation toxicity lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3492	6.1	3 8								FORBIDDEN	FORBIDDEN
>												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
* Toxic by inhalation liquid, corrosive, flammable, n.o.s.* with an inhalation toxicity lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3493	6.1	3 8						FORBIDDEN		FORBIDDEN	
>												
+ Iodine monochloride, liquid	3498	8		Corrosive			II	E2	851	1.0 L	855	30 L
+ Capacitor, electric double layer (with an energy storage capacity greater than 0.3 Wh)	3499	9		Miscellaneous		A186		E0	971	No limit	971	No limit
+ Chemical under pressure, n.o.s.*	3500	2.2		Gas non-flammable		A187		E0	218	75 kg	218	150 kg
+ Chemical under pressure, flammable, n.o.s.*	3501	2.1		Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A1 A187		E0	FORBIDDEN		218	75 kg
+ Chemical under pressure, toxic, n.o.s.*	3502	2.2	6.1	Gas non-flammable & Toxic	AU 1 CA 7 IR 3 NL 1 US 3	A1 A187		E0	FORBIDDEN		218	100 kg
+ Chemical under pressure, corrosive, n.o.s.*	3503	2.2	8	Gas non-flammable & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A1 A187		E0	FORBIDDEN		218	100 kg
+ Chemical under pressure, flammable, toxic, n.o.s.*	3504	2.1	6.1	Gas flammable & Toxic	AU 1 CA 7 IR 3 NL 1 US 3	A1 A187		E0	FORBIDDEN		218	75 kg
+ Chemical under pressure, flammable, corrosive, n.o.s.*	3505	2.1	8	Gas flammable & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A1 A187		E0	FORBIDDEN		218	75 kg
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
* Mercury contained in manufactured articles	2809	8		Corrosive		A48 A69	III	E0	869	No limit	869	No limit
≠ Mercury contained in manufactured articles	3506	8	6.1	Corrosive & Toxic		A48 A69 A192	III	E0	869	No limit	869	No limit

ATTACHMENT B**PROPOSED AMENDMENTS TO TABLE 3-1 — ALPHABETICAL
ORDER**

The format for displaying the amendments to Table 3-1 is as follows:

Modified entries

- both the original and the modified entry are printed;
- both modified and non-modified fields are printed;
- the original entry is printed in a shaded box with an asterisk in the left margin;
- check boxes are printed above the field(s) which have been modified;
- the modified entry is shown without shading below the original entry; and
- the “≠” symbol is printed in the left margin.

Deleted entries

- deleted entries are displayed in a shaded box with an asterisk in the left margin;
- check boxes are shown above each field; and
- the “>” symbol is displayed in the left margin below the shaded box to indicate that the entry will be deleted.

New entries

New entries are shown without shading with the “+” symbol in the left margin.

Table 3-1. Dangerous Goods List

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Aldehyde, see Acetaldehyde												
≠ Aldehyde, see Aldehydes, n.o.s. (UN No. 1989)												
<input checked="" type="checkbox"/>												
* Alkyl aluminium halides, see Aluminium alkyl halides												
≠ Alkyl aluminium halides, see Organometallic substance, solid, pyrophoric, water-reactive (UN No. 3393) or Organometallic substance, liquid, pyrophoric, water-reactive (UN No. 3394)												
<input checked="" type="checkbox"/>												
* Alkylsulphuric acids*	2571	8		Corrosive			II	E2	851 Y840	1 L 0.5 L	855	30 L
≠ Alkylsulphuric acids	2571	8		Corrosive			II	E2	851 Y840	1 L 0.5 L	855	30 L
+ Aluminium alkyl halides, liquid, see Organometallic substance, liquid, pyrophoric, water reactive (UN No. 3394)												
+ Aluminium alkyl halides, solid, see Organometallic substance, solid, pyrophoric, water reactive (UN No. 3393)												
+ Aluminium alkyl hydrides, see Organometallic substance, liquid, pyrophoric, water-reactive (UN No. 3394)												
+ Aluminium alkyls, see Organometallic substance, liquid, pyrophoric, water-reactive (UN No. 3394)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Ammonia, anhydrous	1005	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Ammonia, anhydrous	1005	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Ammonia solution , relative density less than 0.880 at 15°C in water, with more than 50% ammonia	3318	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Ammonia solution , relative density less than 0.880 at 15°C in water, with more than 50% ammonia	3318	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/> * Ammonium nitrate fertilizers	2071	9		Miscellaneous		A89 A90	III		958 Y958	200 kg 30 kg G	958	200 kg
≠ Ammonium nitrate based fertilizers	2071	9		Miscellaneous		A89 A90	III		958 Y958	200 kg 30 kg G	958	200 kg
+ tert-Amylperoxy-3,5,5-trimethylhexanoate	FORBIDDEN											
* Arsine	2188	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Arsine	2188	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Asbestos †, see Blue asbestos or Brown asbestos												
≠ Asbestos †, see Blue asbestos , Brown asbestos or White asbestos												
* Aviation regulated liquid, n.o.s.*	3334	9		Miscellaneous		A27	III	E1	964 Y964	<input checked="" type="checkbox"/> No limit 30 kg G	964	<input checked="" type="checkbox"/> No limit
≠ Aviation regulated liquid, n.o.s.*	3334	9		Miscellaneous		A27	III	E1	964 Y964	450 L 30 kg G	964	450 L
* Aviation regulated solid, n.o.s.*	3335	9		Miscellaneous		A27	III	E1	956 Y956	<input checked="" type="checkbox"/> No limit 30 kg G	956	<input checked="" type="checkbox"/> No limit
≠ Aviation regulated solid, n.o.s.*	3335	9		Miscellaneous		A27	III	E1	956 Y956	400 kg 30 kg G	956	400 kg
* Batteries, dry, containing potassium hydroxide solid , electric storage †	3028	8		Corrosive		<input checked="" type="checkbox"/> A183		E0	871	<input checked="" type="checkbox"/> 25 kg G	871	<input checked="" type="checkbox"/> 230 kg G
≠ Batteries, dry, containing potassium hydroxide solid , electric storage †	3028	8		Corrosive		A183 A184		E0	871	25 kg	871	230 kg
* Batteries, wet, filled with acid , electric storage †	2794	8		Corrosive		A51 A164 A183		E0	870	<input checked="" type="checkbox"/> 30 kg G	870	No limit
≠ Batteries, wet, filled with acid , electric storage †	2794	8		Corrosive		A51 A164 A183		E0	870	30 kg	870	No limit
* Batteries, wet, filled with alkali , electric storage †	2795	8		Corrosive		A51 A164 A183		E0	870	<input checked="" type="checkbox"/> 30 kg G	870	No limit
≠ Batteries, wet, filled with alkali , electric storage †	2795	8		Corrosive		A51 A164 A183		E0	870	30 kg	870	No limit

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Battery, lithium, see Lithium batteries, etc.												
≠ Battery, lithium ion, see Lithium ion batteries, etc. (UN Nos. 3480, 3481)												
+ Battery, lithium metal, see Lithium metal batteries, etc. (UN Nos. 3090, 3091)												
<input checked="" type="checkbox"/>												
* Bifluorides, n.o.s., see Hydrogendifluorides, n.o.s.												
≠ Bifluorides, n.o.s., see Hydrogendifluorides, solid, n.o.s. (UN No. 1740)												
<input checked="" type="checkbox"/>												
* Boron trichloride	1741	2.3	8		AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Boron trichloride	1741	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/>												
* Boron trifluoride	1008	2.3	8		AU 1 CA 7 GB 3 IR 3 NL 1 US 3	<input checked="" type="checkbox"/> A2			FORBIDDEN		FORBIDDEN	
≠ Boron trifluoride	1008	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2 A191			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Bromine chloride	2901	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Bromine chloride	2901	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Butyl lithium, see Lithium alkyls					<input checked="" type="checkbox"/>							
≠ Butyl lithium, see Organometallic substance, liquid, pyrophoric, water reactive (UN No. 3394)												
* But-1-yne, see Ethyl acetylene					<input checked="" type="checkbox"/>							
≠ But-1-yne, see Ethylacetylene, stabilized (UN No. 2452)												
+ Capacitor, electric double layer (with an energy storage capacity greater than 0.3 Wh)	3499	9		Miscellaneous		A186		E0	971	No limit	971	No limit
* Carbon monoxide, compressed	1016	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Carbon monoxide, compressed	1016	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Carbonyl fluoride	2417	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Carbonyl fluoride	2417	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Carbonyl sulphide	2204	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Carbonyl sulphide	2204	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
+ Cartridges for tools, blank †	0014	1.4S		Explosive 1.4				E0	130	25 kg	130	100 kg
* Casinghead gasoline, see Natural gasoline												
≠ Casinghead gasoline, see Gasoline or Petrol or Motor spirit (UN No. 1203)												
* Cells, containing sodium †	3292	4.3		Danger if wet		A94	II	E0	492	<input checked="" type="checkbox"/> 25 kg G	492	No limit
≠ Cells, containing sodium †	3292	4.3		Danger if wet		A94	II	E0	492	25 kg	492	No limit
+ Chemical under pressure, n.o.s.*	3500	2.2		Gas non-flammable		A187		E0	218	75 kg	218	150 kg
+ Chemical under pressure, corrosive, n.o.s.*	3503	2.2	8	Gas non-flammable & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A1 A187		E0	FORBIDDEN		218	100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
+ Chemical under pressure, flammable, n.o.s.*	3501	2.1		Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A1 A187		E0	FORBIDDEN		218	75 kg
+ Chemical under pressure, flammable, corrosive, n.o.s.*	3505	2.1	8	Gas flammable & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A1 A187		E0	FORBIDDEN		218	75 kg
+ Chemical under pressure, flammable, toxic, n.o.s.*	3504	2.1	6.1	Gas flammable & Toxic	AU 1 CA 7 IR 3 NL 1 US 3	A1 A187		E0	FORBIDDEN		218	75 kg
+ Chemical under pressure, toxic, n.o.s.*	3502	2.2	6.1	Gas non-flammable & Toxic	AU 1 CA 7 IR 3 NL 1 US 3	A1 A187		E0	FORBIDDEN		218	100 kg
* Chlorine	1017	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Chlorine	1017	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Chlorine pentafluoride	2548	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Chlorine pentafluoride	2548	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Chlorine trifluoride	1749	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Chlorine trifluoride	1749	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Chloropicrin and methyl bromide mixture with more than 2% chloropicrin	1581	2.3			<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Chloropicrin and methyl bromide mixture with more than 2% chloropicrin	1581	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Chloropicrin and methyl chloride mixture	1582	2.3			<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Chloropicrin and methyl chloride mixture	1582	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Chlorosilanes, flammable, corrosive, n.o.s.	2985	3	8	Liquid flammable & Corrosive			II	<input checked="" type="checkbox"/> E2	<input checked="" type="checkbox"/> 377	<input checked="" type="checkbox"/> 1 L	377	5 L
≠ Chlorosilanes, flammable, corrosive, n.o.s.	2985	3	8	Liquid flammable & Corrosive			II	E0	FORBIDDEN		377	5 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Chlorosilanes, toxic, corrosive, n.o.s.*	3361	6.1	8	Toxic & Corrosive			II	<input checked="" type="checkbox"/> E4	<input checked="" type="checkbox"/> 681	<input checked="" type="checkbox"/> 1 L	681	30 L
≠ Chlorosilanes, toxic, corrosive, n.o.s.*	3361	6.1	8	Toxic & Corrosive			II	E0	FORBIDDEN		681	30 L
* Chlorosilanes, toxic, corrosive, flammable, n.o.s.*	3362	6.1	3 8	Toxic & Liquid flammable & Corrosive			II	<input checked="" type="checkbox"/> E4	<input checked="" type="checkbox"/> 681	<input checked="" type="checkbox"/> 1 L	681	30 L
≠ Chlorosilanes, toxic, corrosive, flammable, n.o.s.*	3362	6.1	3 8	Toxic & Liquid flammable & Corrosive			II	E0	FORBIDDEN		681	30 L
<input checked="" type="checkbox"/> * Chlorotrifluoroethylene, see Trifluorochloroethylene, inhibited												
≠ Chlorotrifluoroethylene, see Trifluorochloroethylene, stabilized (UN No. 1082)												
* Coal gas, compressed †	1023	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Coal gas, compressed †	1023	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Compressed gas, toxic, n.o.s.*	1955	2.3			<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Compressed gas, toxic, n.o.s.*	1955	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Compressed gas, toxic, corrosive, n.o.s.*	3304	2.3	8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Compressed gas, toxic, corrosive, n.o.s.*	3304	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Compressed gas, toxic, flammable, n.o.s.*	1953	2.3	2.1		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Compressed gas, toxic, flammable, n.o.s.*	1953	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Compressed gas, toxic, flammable, corrosive, n.o.s.*	3305	2.3	2.1 8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Compressed gas, toxic, flammable, corrosive, n.o.s.*	3305	2.3	2.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Compressed gas, toxic, oxidizing, n.o.s.*	3303	2.3	5.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Compressed gas, toxic, oxidizing, n.o.s.*	3303	2.3	5.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Compressed gas, toxic, oxidizing, corrosive, n.o.s.*	3306	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Compressed gas, toxic, oxidizing, corrosive, n.o.s.*	3306	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
+ Cupric chlorate, see Copper chlorate (UN No. 2721)												
* <input checked="" type="checkbox"/> Cyanides, organic, toxic, n.o.s., see Nitriles, toxic, n.o.s.												
≠ Cyanides, organic, toxic, n.o.s., see Nitriles, liquid, toxic, n.o.s. (UN No. 3276) or Nitriles, solid, toxic, n.o.s. (UN No. 3439)												
* Cyanogen	1026	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Cyanogen	1026	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* 2-Diethylaminoethanol, see Diethylaminoethanol												
≠ Diethylaminoethanol, see 2-Diethylaminoethanol (UN 2686)												
<input checked="" type="checkbox"/>												
* Diethylcarbinol, see Amyl alcohols												
≠ Diethylcarbinol, see Pentanol s (UN No. 1105)												
+ Diethylzinc, see Organometallic substance, liquid, pyrophoric, water-reactive (UN No. 3394)												
* Dimethyldichlorosilane	1162	3	8	Liquid flammable & Corrosive			II	<input checked="" type="checkbox"/> E2	<input checked="" type="checkbox"/> 377	<input checked="" type="checkbox"/> 1 L	377	5 L
≠ Dimethyldichlorosilane	1162	3	8	Liquid flammable & Corrosive			II	E0	FORBIDDEN		377	5 L
* Dimethyl disulphide	2381	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Liquid flammable			II	<input checked="" type="checkbox"/> E2	<input checked="" type="checkbox"/> 353 <input checked="" type="checkbox"/> Y341	<input checked="" type="checkbox"/> 5 L <input checked="" type="checkbox"/> 1 L	<input checked="" type="checkbox"/> 364	<input checked="" type="checkbox"/> 60 L
≠ Dimethyl disulphide	2381	3	6.1				II	E0	FORBIDDEN		FORBIDDEN	
+ Dimethylzinc, see Organometallic substance, liquid, pyrophoric, water-reactive (UN No. 3394)												
<input checked="" type="checkbox"/>												
* Dinitrochlorobenzenes, see Chlorodinitrobenzenes												
≠ Dinitrochlorobenzenes, see Chlorodinitrobenzenes, liquid (UN No. 1577) or Chlorodinitrobenzenes, solid (UN No. 3441)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Dinitrogen tetroxide	1067	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Dinitrogen tetroxide	1067	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
+ Disuccinic acid peroxide 72% or more	FORBIDDEN											
<input checked="" type="checkbox"/> * Electric storage batteries, see Batteries , etc.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
>												
* Ethylene oxide	1040	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3 US 4	A2 A131			FORBIDDEN		FORBIDDEN	
≠ Ethylene oxide	1040	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3 US 4	A2 A131			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Ethylene oxide and carbon dioxide mixture, with more than 87% ethylene oxide	3300	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3 US 4	A2			FORBIDDEN		FORBIDDEN	
≠ Ethylene oxide and carbon dioxide mixture, with more than 87% ethylene oxide	3300	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3 US 4	A2			FORBIDDEN		FORBIDDEN	
* Ethyltrichlorosilane	1196	3	8	Liquid flammable & Corrosive			II	<input checked="" type="checkbox"/> E2	<input checked="" type="checkbox"/> 377	<input checked="" type="checkbox"/> 1 L	377	5 L
≠ Ethyltrichlorosilane	1196	3	8	Liquid flammable & Corrosive			II	E0	FORBIDDEN		377	5 L
* Fertilizer with ammonium nitrate, n.o.s., see Ammonium nitrate fertilizer, n.o.s.												
≠ Fertilizer with ammonium nitrate, n.o.s., see Ammonium nitrate based fertilizer (UN No. 2067) or Ammonium nitrate based fertilizers (UN No. 2071)												
* Fluoric acid, see Hydrofluoric acid, solution , etc.												
≠ Fluoric acid, see Hydrofluoric acid (UN No. 1790)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Cyanogen chloride, stabilized	1589	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Cyanogen chloride, stabilized	1589	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* <input checked="" type="checkbox"/> Deanol, see Dimethylethanolamine												
≠ Deanol, see 2-Dimethylaminoethanol (UN No. 2051)												
* Diborane	1911	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Diborane	1911	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Dichlorosilane	2189	2.3	2.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Dichlorosilane	2189	2.3	2.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Fluorine, compressed	1045	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Fluorine, compressed	1045	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
+ Formaldehyde solution with less than 25 per cent formaldehyde						A189						

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Gas cartridges (toxic & corrosive) without a release device, non-refillable	2037	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Gas cartridges (toxic & corrosive) without a release device, non-refillable	2037	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Gas cartridges (toxic, flammable & corrosive) without a release device, non-refillable	2037	2.3	2.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Gas cartridges (toxic, flammable & corrosive) without a release device, non-refillable	2037	2.3	2.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Gas cartridges (toxic & flammable) without a release device, non-refillable	2037	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Gas cartridges (toxic & flammable) without a release device, non-refillable	2037	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Gas cartridges (toxic, oxidizing & corrosive) without a release device, non-refillable	2037	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Chapter 2

3-2-19

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
≠ Gas cartridges (toxic, oxidizing & corrosive) without a release device, non-refillable	2037	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Gas cartridges (toxic & oxidizing) without a release device, non-refillable	2037	2.3	5.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Gas cartridges (toxic & oxidizing) without a release device, non-refillable	2037	2.3	5.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Gas cartridges (toxic) without a release device, non-refillable	2037	2.3			<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Gas cartridges (toxic) without a release device, non-refillable	2037	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Germane	2192	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Germane	2192	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Heavy hydrogen, see Deuterium												
≠ Heavy hydrogen, see Deuterium, compressed (UN No. 1957)												
* Hexaethyl tetraphosphate and compressed gas mixture	1612	2.3			<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Hexaethyl tetraphosphate and compressed gas mixture	1612	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Hexafluoroacetone	2420	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Hexafluoroacetone	2420	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Hydrogen bromide, anhydrous	1048	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Hydrogen bromide, anhydrous	1048	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Hydrogen chloride, anhydrous	1050	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Hydrogen chloride, anhydrous	1050	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Hydrogen in a metal hydride storage system	3468	2.1		Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A1 A143 A176		E0	FORBIDDEN		214	<input checked="" type="checkbox"/> 100 kg G
≠ Hydrogen in a metal hydride storage system	3468	2.1		Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A1 A143 A176		E0	FORBIDDEN		214	100 kg
* Hydrogen in a metal hydride storage system contained in equipment	3468	2.1		Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A1 A143 A176		E0	FORBIDDEN		214	<input checked="" type="checkbox"/> 100 kg G
≠ Hydrogen in a metal hydride storage system contained in equipment	3468	2.1		Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A1 A143 A176		E0	FORBIDDEN		214	100 kg
* Hydrogen in a metal hydride storage system packed with equipment	3468	2.1		Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A1 A143 A176		E0	FORBIDDEN		214	<input checked="" type="checkbox"/> 100 kg G
≠ Hydrogen in a metal hydride storage system packed with equipment	3468	2.1		Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A1 A143 A176		E0	FORBIDDEN		214	100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Hydrogen iodide, anhydrous	2197	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Hydrogen iodide, anhydrous	2197	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Hydrogen selenide, anhydrous	2202	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Hydrogen selenide, anhydrous	2202	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Hydrogen sulphide	1053	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Hydrogen sulphide	1053	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Insecticide gas, n.o.s.*	1968	2.2		Gas non-flammable				E1	<input checked="" type="checkbox"/> 200 or 203 Y203	<input checked="" type="checkbox"/> 75 kg 30 kg G	<input checked="" type="checkbox"/> 200 or 203	150 kg
≠ Insecticide gas, n.o.s.*	1968	2.2		Gas non-flammable				E1	200	75 kg	200	150 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Insecticide gas, toxic, n.o.s.*	1967	2.3			<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2				FORBIDDEN	FORBIDDEN	
≠ Insecticide gas, toxic, n.o.s.*	1967	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2				FORBIDDEN	FORBIDDEN	
* Insecticide gas, toxic, flammable, n.o.s.*	3355	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2				FORBIDDEN	FORBIDDEN	
≠ Insecticide gas, toxic, flammable, n.o.s.*	3355	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2				FORBIDDEN	FORBIDDEN	
+ Iodine monochloride, liquid	3498	8		Corrosive			II	E2	851	1.0 L	855	30 L
<input checked="" type="checkbox"/> * Iodine monochloride	1792	8		Corrosive	<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A1	II	E0	FORBIDDEN		863	50 kg
≠ Iodine monochloride, solid	1792	8		Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A1	II	E0	FORBIDDEN		863	50 kg
<input checked="" type="checkbox"/> * Isopropyl bromide, see 2-Bromopropane	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
>												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Jet tappers, without detonator, see Charges, shaped, commercial												
≠ Jet tappers, without detonator, see Charges, shaped (UN Nos. 0059, 0439, 0440, 0441)												
<input checked="" type="checkbox"/>												
* Lead (II) perchlorate, see Lead perchlorate												
≠ Lead (II) perchlorate, see Lead perchlorate, solid (UN No. 1470) or Lead perchlorate solution (UN No. 3408)												
<input checked="" type="checkbox"/>												
* Liquefied gas, toxic, n.o.s.*	3162	2.3			<input checked="" type="checkbox"/>	AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2		FORBIDDEN		FORBIDDEN	
≠ Liquefied gas, toxic, n.o.s.*	3162	2.3				AU 1 CA 7 IR 3 NL 1 US 3	A2		FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/>												
* Liquefied gas, toxic, corrosive, n.o.s.*	3308	2.3	8		<input checked="" type="checkbox"/>	AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2		FORBIDDEN		FORBIDDEN	
≠ Liquefied gas, toxic, corrosive, n.o.s.*	3308	2.3	8			AU 1 CA 7 IR 3 NL 1 US 3	A2		FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Liquefied gas, toxic, flammable, n.o.s.*	3160	2.3	2.1		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Liquefied gas, toxic, flammable, n.o.s.*	3160	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Liquefied gas, toxic, flammable, corrosive, n.o.s.*	3309	2.3	2.1 8		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Liquefied gas, toxic, flammable, corrosive, n.o.s.*	3309	2.3	2.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Liquefied gas, toxic, oxidizing, n.o.s.*	3307	2.3	5.1		☑ AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Liquefied gas, toxic, oxidizing, n.o.s.*	3307	2.3	5.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Liquefied gas, toxic, oxidizing, corrosive, n.o.s.*	3310	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Liquefied gas, toxic, oxidizing, corrosive, n.o.s.*	3310	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
+ Lithium alkyls, liquid, see Organometallic substance, liquid, pyrophoric, water-reactive (UN No. 3394)												
+ Lithium alkyls, solid, see Organometallic substance, solid, pyrophoric, water-reactive (UN No. 3393)												
+ Lithium alloy batteries, see Lithium metal batteries, etc. (UN Nos. 3090, 3091)												
* Lithium ion batteries (including lithium ion polymer batteries)	3480	9		Miscellaneous	US 3	<input checked="" type="checkbox"/> A88 A99 A154 A164 A183	II	E0	965	<input checked="" type="checkbox"/> 5 kg G	965	<input checked="" type="checkbox"/> 35 kg G
≠ Lithium ion batteries (including lithium ion polymer batteries)	3480	9		Miscellaneous	US 3	A51 A88 A99 A154 A164 A183	II	E0	965	5 kg	965	35 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Lithium ion batteries contained in equipment (including lithium ion polymer batteries)	3481	9		Miscellaneous	US 3	✓ A48 A99 A154 A164 A181	II	E0	✓ see 967	✓ 967	✓ see 967	✓ 967
≠ Lithium ion batteries contained in equipment (including lithium ion polymer batteries)	3481	9		Miscellaneous	US 3	A48 A99 A154 A164 A181 A185	II	E0	967	5 kg	967	35 kg
* Lithium ion batteries packed with equipment (including lithium ion polymer batteries)	3481	9		Miscellaneous	US 3	✓ A88 A99 A154 A164 A181	II	E0	✓ see 966	✓ 966	✓ see 966	✓ 966
≠ Lithium ion batteries packed with equipment (including lithium ion polymer batteries)	3481	9		Miscellaneous	US 3	A88 A99 A154 A164 A181 A185	II	E0	966	5 kg	966	35 kg
+ Lithium ion polymer batteries, see Lithium ion batteries , etc. (UN Nos. 3480, 3481)												
* Lithium metal batteries (including lithium alloy batteries) †	3090	9		Miscellaneous	US 2 US 3	A88 A99 A154 A164 A183	II	E0	968	✓ 2.5 kg G	968	✓ 35 kg G
≠ Lithium metal batteries (including lithium alloy batteries) †	3090	9		Miscellaneous	US 2 US 3	A88 A99 A154 A164 A183	II	E0	968	2.5 kg	968	35 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Lithium metal batteries contained in equipment (including lithium alloy batteries) †	3091	9		Miscellaneous	US 2 US 3	<input checked="" type="checkbox"/> A48 A99 A154 A164 A181	II	E0	<input checked="" type="checkbox"/> see 970	<input checked="" type="checkbox"/> 970	<input checked="" type="checkbox"/> see 970	<input checked="" type="checkbox"/> 970
≠ Lithium metal batteries contained in equipment (including lithium alloy batteries) †	3091	9		Miscellaneous	US 2 US 3	A48 A99 A154 A164 A181 A185	II	E0	970	5 kg	970	35 kg
* Lithium metal batteries packed with equipment (including lithium alloy batteries) †	3091	9		Miscellaneous	US 2 US 3	<input checked="" type="checkbox"/> A99 A154 A164 A181	II	E0	<input checked="" type="checkbox"/> see 969	<input checked="" type="checkbox"/> 969	<input checked="" type="checkbox"/> see 969	<input checked="" type="checkbox"/> 969
≠ Lithium metal batteries packed with equipment (including lithium alloy batteries) †	3091	9		Miscellaneous	US 2 US 3	A99 A154 A181 A185	II	E0	969	5 kg	969	35 kg
+ Magnesium alkyls, see Organometallic substance, liquid, pyrophoric, water-reactive (UN No. 3394)												
<input checked="" type="checkbox"/> * Magnesium chloride and chlorate mixture, see Chlorate and magnesium chloride mixture												
≠ Magnesium chloride and chlorate mixture, see Chlorate and magnesium chloride mixture, solid (UN No. 1459) or Chlorate and magnesium chloride mixture solution (UN No. 3407)												
+ Magnesium diphenyl, see Organometallic substance, solid, pyrophoric, water-reactive (UN No. 3393)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Mercury	2809	8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Corrosive	US 4		III	E0	868	35 kg	868	35 kg
≠ Mercury	2809	8	6.1	Corrosive & Toxic	US 4		III	E0	868	35 kg	868	35 kg
<input checked="" type="checkbox"/> * Mercury contained in manufactured articles	<input checked="" type="checkbox"/> 2809	8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Corrosive		<input checked="" type="checkbox"/> A48 A69	III	E0	869	No limit	869	No limit
≠ Mercury contained in manufactured articles	3506	8	6.1	Corrosive & Toxic		A48 A69 A192	III	E0	869	No limit	869	No limit
<input checked="" type="checkbox"/> * 1-Methoxy-2-nitrobenzene, see Nitroanisole												
≠ 1-Methoxy-2-nitrobenzene, see Nitroanisoles, liquid (UN No. 2730) or Nitroanisoles, solid (UN No. 3458)												
<input checked="" type="checkbox"/> * 1-Methoxy-3-nitrobenzene, see Nitroanisole												
≠ 1-Methoxy-3-nitrobenzene, see Nitroanisoles, liquid (UN No. 2730) or Nitroanisoles, solid (UN No. 3458)												
<input checked="" type="checkbox"/> * 1-Methoxy-4-nitrobenzene, see Nitroanisole												
≠ 1-Methoxy-4-nitrobenzene, see Nitroanisoles, liquid (UN No. 2730) or Nitroanisoles, solid (UN No. 3458)												
<input checked="" type="checkbox"/> * beta-Methyl acrolein, see Crotonaldehyde, stabilized												
≠ beta-Methyl acrolein, see Crotonaldehyde or Crotonaldehyde, stabilized (UN No. 1143)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Methyl amyl ketone, see Amyl methyl ketone												
≠ Methyl amyl ketone, see n-Amyl methyl ketone (UN No. 1110)												
<input checked="" type="checkbox"/>												
* Methyl bromide with not more than 2% chloropicrin	1062	2.3			AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Methyl bromide with not more than 2% chloropicrin	1062	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/>												
* Methylchlorosilane	2534	2.3	2.1 8		AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Methylchlorosilane	2534	2.3	2.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/>												
* Methyl ethyl ketone peroxide(s), more than 50%	FORBIDDEN											
≠ Methyl ethyl ketone peroxide(s), 48% or more if available oxygen above 10% and not more than 10.7% with or without water	FORBIDDEN											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Methyl mercaptan	1064	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2				FORBIDDEN	FORBIDDEN	
≠ Methyl mercaptan	1064	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2				FORBIDDEN	FORBIDDEN	
<input checked="" type="checkbox"/> * Methyl mercaptopropionaldehyde, see 4-Thiapentanal												
≠ Methyl mercaptopropionaldehyde, see 4-Thiapentanal (UN No. 2785)												
<input checked="" type="checkbox"/> * Methylstyrene, inhibited, see Vinyltoluenes, inhibited												
≠ Methylstyrene, stabilized, see Vinyltoluenes, stabilized (UN No. 2618)												
* Methyltrichlorosilane	1250	3	8	Liquid flammable & Corrosive	<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3		II	<input checked="" type="checkbox"/> E2	<input checked="" type="checkbox"/> 377	<input checked="" type="checkbox"/> 1 L	377	5 L
≠ Methyltrichlorosilane	1250	3	8	Liquid flammable & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3		II	E0	FORBIDDEN		377	5 L
<input checked="" type="checkbox"/> * Methyl vinyl benzene, inhibited, see Vinyltoluene, inhibited												
≠ Methyl vinyl benzene, stabilized, see Vinyltoluenes, stabilized (UN No. 2618)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Nitric oxide and dinitrogen tetroxide mixture	1975	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Nitric oxide and dinitrogen tetroxide mixture	1975	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Nitric oxide and nitrogen dioxide mixture	1975	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Nitric oxide and nitrogen dioxide mixture	1975	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Nitric oxide, compressed	1660	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Nitric oxide, compressed	1660	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* <input checked="" type="checkbox"/> Nitriles, toxic, liquid, n.o.s.*	3276	6.1		Toxic		A3 A4 A137	I II III	E5 E4 E1	652 654 Y641 655 Y642	1 L 5 L 1 L 60 L 2 L	658 662 663	30 L 60 L 220 L
≠ Nitriles, liquid, toxic, n.o.s.*	3276	6.1		Toxic		A3 A4 A137	I II III	E5 E4 E1	652 654 Y641 655 Y642	1 L 5 L 1 L 60 L 2 L	658 662 663	30 L 60 L 220 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Nitriles, toxic, solid, n.o.s.*	3439	6.1		Toxic		A3 A5	I II III	E5 E4 E1	666 669 Y644 670 Y645	5 kg 25 kg 1 kg 100 kg 10 kg	673 676 677	50 kg 100 kg 200 kg
≠ Nitriles, solid, toxic, n.o.s.*	3439	6.1		Toxic		A3 A5	I II III	E5 E4 E1	666 669 Y644 670 Y645	5 kg 25 kg 1 kg 100 kg 10 kg	673 676 677	50 kg 100 kg 200 kg
* Nitrogen dioxide	1067	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Nitrogen dioxide	1067	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Nitrogen trioxide	2421	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Nitrogen trioxide	2421	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Nitroglycerin solution in alcohol with more than 1% but not more than 5% nitroglycerin	3064	3		Liquid flammable		<input checked="" type="checkbox"/> BE 3	II	E0	FORBIDDEN		371	5 L
≠ Nitroglycerin solution in alcohol with more than 1% but not more than 5% nitroglycerin	3064	3		Liquid flammable	BE 3	A188	II	E0	FORBIDDEN		371	5 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Nitrosyl chloride	1069	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Nitrosyl chloride	1069	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* <input checked="" type="checkbox"/> Non-activated carbon, see Carbon, animal or vegetable origin												
≠ Non-activated carbon, see Carbon (UN No. 1361)												
* <input checked="" type="checkbox"/> Non-activated charcoal, see Carbon, animal or vegetable origin												
≠ Non-activated charcoal, see Carbon (UN No. 1361)												
* Oil gas, compressed †	1071	2.3	2.1	Gas toxic & Gas flammable	<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A1		E0	FORBIDDEN		200	25 kg
≠ Oil gas, compressed †	1071	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A1		E0	FORBIDDEN		200	25 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Organometallic compound, toxic, liquid, n.o.s.*	3282	6.1		Toxic		A3 A4	I II III	E5 E4 E1	652 654 Y641 655 Y642	1 L 5 L 1 L 60 L 2 L	658 662 663	30 L 60 L 220 L
≠ Organometallic compound, liquid, toxic, n.o.s.*	3282	6.1		Toxic		A3 A4	I II III	E5 E4 E1	652 654 Y641 655 Y642	1 L 5 L 1 L 60 L 2 L	658 662 663	30 L 60 L 220 L
<input checked="" type="checkbox"/>												
* Organometallic compound, toxic, solid, n.o.s.*	3467	6.1		Toxic		A3 A5	I II III	E5 E4 E1	666 669 Y644 670 Y645	5 kg 25 kg 1 kg 100 kg 10 kg	673 676 677	50 kg 100 kg 200 kg
≠ Organometallic compound, solid, toxic, n.o.s.*	3467	6.1		Toxic		A3 A5	I II III	E5 E4 E1	666 669 Y644 670 Y645	5 kg 25 kg 1 kg 100 kg 10 kg	673 676 677	50 kg 100 kg 200 kg
<input checked="" type="checkbox"/>												
* Organophosphorus compound, toxic, liquid, n.o.s.*	3278	6.1		Toxic		A3 A4 A6 A137	I II III	E5 E4 E1	652 654 Y641 655 Y642	1 L 5 L 1 L 60 L 2 L	658 662 663	30 L 60 L 220 L
≠ Organophosphorus compound, liquid, toxic, n.o.s.*	3278	6.1		Toxic		A3 A4 A6 A137	I II III	E5 E4 E1	652 654 Y641 655 Y642	1 L 5 L 1 L 60 L 2 L	658 662 663	30 L 60 L 220 L
<input checked="" type="checkbox"/>												
* Organophosphorus compound, toxic, solid, n.o.s.*	3464	6.1		Toxic		A3 A5 A6	I II III	E5 E4 E1	666 669 Y644 670 Y645	5 kg 25 kg 1 kg 100 kg 10 kg	673 676 677	50 kg 100 kg 200 kg
≠ Organophosphorus compound, solid, toxic, n.o.s.*	3464	6.1		Toxic		A3 A5 A6	I II III	E5 E4 E1	666 669 Y644 670 Y645	5 kg 25 kg 1 kg 100 kg 10 kg	673 676 677	50 kg 100 kg 200 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Orthophosphoric acid, see Phosphoric acid												
≠ Orthophosphoric acid, see Phosphoric acid, solution (UN No. 1805) or Phosphoric acid, solid (UN No. 3453)												
* Oxygen difluoride, compressed	2190	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Oxygen difluoride, compressed	2190	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
+ 3-Pentanol, see Pentanois (UN No. 1105)												
* Perchloryl fluoride	3083	2.3	5.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Perchloryl fluoride	3083	2.3	5.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/>												
* Phenylethylene, see Styrene monomer, inhibited												
≠ Phenylethylene, see Styrene monomer, stabilized (UN No. 2055)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Phosgene	1076	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Phosgene	1076	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Phosphine	2199	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Phosphine	2199	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Phosphorus pentafluoride	2198	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Phosphorus pentafluoride	2198	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* <input checked="" type="checkbox"/> Picrotoxin, see Toxins, extracted from living sources, n.o.s.												
≠ Picrotoxin, see Toxins, extracted from living sources, liquid, n.o.s. (UN No. 3172) or Toxins, extracted from living sources, solid, n.o.s. (UN No. 3462)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Polyester resin kit †	3269	3		Liquid flammable		A66 A163	II III	E0 E0	370 Y370 370 Y370	<input checked="" type="checkbox"/> 5 kg 1 kg 5 kg 1 kg	370 370	5 kg 5 kg
≠ Polyester resin kit †	3269	3		Liquid flammable		A66 A163	II III	E0 E0	370 Y370 370 Y370	5 kg 1 kg 10 kg 5 kg	370 370	5 kg 10 kg
* <input checked="" type="checkbox"/> Potassium bifluoride, see Potassium hydrogendifluoride												
≠ Potassium bifluoride, see Potassium hydrogendifluoride, solid (UN No. 1811)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Receptacles, small, containing gas (toxic & corrosive) without a release device, non-refillable	2037	2.3	2.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Receptacles, small, containing gas (toxic & corrosive) without a release device, non-refillable	2037	2.3	2.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Receptacles, small, containing gas (toxic, flammable & corrosive) without a release device, non-refillable	2037	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Receptacles, small, containing gas (toxic, flammable & corrosive) without a release device, non-refillable	2037	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Receptacles, small, containing gas (toxic & flammable) without a release device, non-refillable	2037	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Receptacles, small, containing gas (toxic & flammable) without a release device, non-refillable	2037	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Receptacles, small, containing gas (toxic, oxidizing & corrosive) without a release device, non-refillable	2037	2.3	5.1 8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Receptacles, small, containing gas (toxic, oxidizing & corrosive) without a release device, non-refillable	2037	2.3	5.1 8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Receptacles, small, containing gas (toxic & oxidizing) without a release device, non-refillable	2037	2.3	5.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Receptacles, small, containing gas (toxic & oxidizing) without a release device, non-refillable	2037	2.3	5.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Receptacles, small, containing gas (toxic) without a release device, non-refillable	2037	2.3			<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Receptacles, small, containing gas (toxic) without a release device, non-refillable	2037	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Selenium hexafluoride	2194	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Selenium hexafluoride	2194	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* <input checked="" type="checkbox"/> Shaped charges, see Charges, shaped, commercial												
≠ Shaped charges, see Charges, shaped (UN Nos. 0059, 0439, 0440, 0441)												
* Silicon tetrafluoride	1859	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Silicon tetrafluoride	1859	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* <input checked="" type="checkbox"/> Sodium potassium alloys, see Potassium sodium alloys												
≠ Sodium potassium alloys, see Potassium sodium alloys, liquid (UN No. 1422) or Potassium sodium alloys, solid (UN No. 3404)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Stibine	2676	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Stibine	2676	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Sulphur dioxide	1079	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Sulphur dioxide	1079	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* <input checked="" type="checkbox"/> Sulphuretted hydrogen, see Hydrogen sulphide, liquefied												
≠ Sulphuretted hydrogen, see Hydrogen sulphide (UN No. 1053)												
* Sulphuryl fluoride	2191	2.3			<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Sulphuryl fluoride	2191	2.3			AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Tellurium hexafluoride	2195	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Tellurium hexafluoride	2195	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/> * Tetrafluorodichloroethane, see Dichlorotetrafluoroethane												
≠ Tetrafluorodichloroethane, see 1,2-Dichloro-1,1,2,2-tetrafluoroethane or Refrigerant gas R 114 (UN No. 1958)												
<input checked="" type="checkbox"/> * Thallium compound, n.o.s.	1707	6.1		Toxic	US 4	A6	II	E4	669 Y644	25 kg 1 kg	676	100 kg
≠ Thallium compound, n.o.s.*	1707	6.1		Toxic	US 4	A6	II	E4	669 Y644	25 kg 1 kg	676	100 kg
<input checked="" type="checkbox"/> * Toxic by inhalation liquid, n.o.s.* with an inhalation toxicity lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3382	6.1							FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3382	6.1							FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/> * Toxic by inhalation liquid, n.o.s.* with an inhalation toxicity lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3381	6.1							FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3381	6.1							FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, corrosive, n.o.s.* with an inhalation toxicity lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3389	6.1	8							FORBIDDEN	FORBIDDEN	
≠ Toxic by inhalation liquid, corrosive, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3389	6.1	8							FORBIDDEN	FORBIDDEN	
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, corrosive, n.o.s.* with an inhalation toxicity lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3390	6.1	8							FORBIDDEN	FORBIDDEN	
≠ Toxic by inhalation liquid, corrosive, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3390	6.1	8							FORBIDDEN	FORBIDDEN	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
* Toxic by inhalation liquid, corrosive, flammable, n.o.s.* with an inhalation toxicity lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3492	6.1	3 8							FORBIDDEN	FORBIDDEN	
>												
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
* Toxic by inhalation liquid, corrosive, flammable, n.o.s.* with an inhalation toxicity lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3493	6.1	3 8							FORBIDDEN	FORBIDDEN	
>												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, flammable, n.o.s.* with an inhalation toxicity lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3383	6.1	3						FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, flammable, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3383	6.1	3						FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, flammable, n.o.s.* with an inhalation toxicity lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3384	6.1	3						FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, flammable, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3384	6.1	3						FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, flammable, corrosive, n.o.s.* with an inhalation toxicity lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3488	6.1	3 8						FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, flammable, corrosive, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3488	6.1	3 8						FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, flammable, corrosive, n.o.s.* with an inhalation toxicity lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3489	6.1	3 8						FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, flammable, corrosive, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3489	6.1	3 8						FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, oxidizing, n.o.s.* with an inhalation toxicity lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3387	6.1	5.1						FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, oxidizing, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3387	6.1	5.1						FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, oxidizing, n.o.s.* with an inhalation toxicity lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3388	6.1	5.1						FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, oxidizing, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3388	6.1	5.1						FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, water-reactive, n.o.s.* with an inhalation toxicity lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3386	6.1	4.3						FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, water-reactive, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3386	6.1	4.3						FORBIDDEN		FORBIDDEN	
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, water-reactive, n.o.s.* with an inhalation toxicity lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3385	6.1	4.3						FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, water-reactive, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3385	6.1	4.3						FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, water-reactive, flammable, n.o.s.* with an inhalation toxicity lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3490	6.1	3 4.3							FORBIDDEN	FORBIDDEN	
≠ Toxic by inhalation liquid, water-reactive, flammable, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3490	6.1	3 4.3							FORBIDDEN	FORBIDDEN	
<input checked="" type="checkbox"/>												
* Toxic by inhalation liquid, water-reactive, flammable, n.o.s.* with an inhalation toxicity lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3491	6.1	3 4.3							FORBIDDEN	FORBIDDEN	
≠ Toxic by inhalation liquid, water-reactive, flammable, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3491	6.1	3 4.3							FORBIDDEN	FORBIDDEN	
<input checked="" type="checkbox"/>												
* Trichloroacetaldehyde, see Chloral, anhydrous, stabilized												
≠ Trichloroacetaldehyde, see Chloral, anhydrous, stabilized (UN No. 2075)												
<input checked="" type="checkbox"/>												
* Trichloroacetaldehyde, see Chloral, anhydrous, inhibited												
≠ Trichloroacetaldehyde, see Chloral, anhydrous, stabilized (UN No. 2075)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Trifluoroacetyl chloride	3057	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Trifluoroacetyl chloride	3057	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Trifluorochloroethylene, stabilized	1082	2.3	2.1		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Trifluorochloroethylene, stabilized	1082	2.3	2.1		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* Trimethylchlorosilane	1298	3	8	Liquid flammable & Corrosive			II	<input checked="" type="checkbox"/> E2	<input checked="" type="checkbox"/> 377	<input checked="" type="checkbox"/> 1 L	377	5 L
≠ Trimethylchlorosilane	1298	3	8	Liquid flammable & Corrosive			II	E0	FORBIDDEN		377	5 L
* <input checked="" type="checkbox"/> 2,4,4-Trimethylpentene-1, see Diisobutylene, isomeric compounds												
≠ 2,4,4-Trimethylpentene-1, see Diisobutylene, isomeric compounds (UN No. 2050)												
* <input checked="" type="checkbox"/> 2,4,4-Trimethylpentene-2, see Diisobutylene, isomeric compounds												
≠ 2,4,4-Trimethylpentene-2, see Diisobutylene, isomeric compounds (UN No. 2050)												

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
* Tungsten hexafluoride	2196	2.3	8		<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
≠ Tungsten hexafluoride	2196	2.3	8		AU 1 CA 7 IR 3 NL 1 US 3	A2			FORBIDDEN		FORBIDDEN	
* <input checked="" type="checkbox"/> Villiamite, see Sodium fluoride												
≠ Villiamite, see Sodium fluoride, solid (UN No. 1690)												
* Vinyltrichlorosilane	1305	3	8	Liquid flammable & Corrosive	<input checked="" type="checkbox"/> AU 1 CA 7 GB 3 IR 3 NL 1 US 3		II	<input checked="" type="checkbox"/> E2	<input checked="" type="checkbox"/> 377	<input checked="" type="checkbox"/> 1 L	377	5 L
≠ Vinyltrichlorosilane	1305	3	8	Liquid flammable & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3		II	E0	FORBIDDEN		377	5 L

البند ٣ من جدول الأعمال: إعداد توصيات لإجراء تعديلات على الإضافة الخاصة بالتوجيهات الفنية للنقل الآمن للبضائع الخطرة (DOC 9284SU) لإدراجها في طبعة ٢٠١٣ - ٢٠١٤.

١-٣ موافقة المشغل على نقل البضائع الخطرة (DGP/23-WP/20)

١-١-٣ كانت المناقشات بشأن ضرورة تعزيز العلاقة بين الملحق السادس والملحق الثامن عشر قد جرت في أثناء الاجتماعين العاشر والحادي عشر للفريق العامل الجامع التابع لفريق الخبراء المعني بالبضائع الخطرة DGP-WG/10 و DGP-WG/11 (انظر الفقرة ١-٦-٣ من ورقة العمل (DGP/23-WP/2) (باللغة الانجليزية فقط)، والفقرة ٣-٣-٥ من ورقة العمل DGP/23-WP/3 (باللغة الانجليزية فقط)). وقد تم الاتفاق في هذين الاجتماعين على وجود منطقة محددة بحاجة إلى تقوية هي منطقة استعراض المواصفات التشغيلية للبضائع الخطرة والموافقة عليها ووجوب النظر في إدخال مواد إرشادية على الإضافة. وقد أُبلغ الاجتماع أن هذه المسألة قد أُضيفت إلى برنامج عمل فريق الخبراء المعني بالعمليات من قبل لجنة الملاحه الجوية (انظر الفقرة ٣-٦).

٢-١-٣ وتم إعداد مواد إرشادية تتعلق بالتحقق من البضائع الخطرة ومراقبتها لكي يتم النظر بها من قبل فريق الخبراء. ولقيت هذه المواد دعماً قوياً بالنظر لأنها يمكن أن توفر الكثير من المعلومات المفيدة التي تحتاج إليها الدول. وجرى القيام بعدد من التعديلات التحريرية، خاصة فيما يتعلق بضمان استخدام مصطلحات على درجة كافية من العمومية لكي تنطبق على ملاحق مختلفة ودول مختلفة. وتم الاتفاق على إدخال المواد الإرشادية المنقحة تحت فصل ٧ جديد يضاف إلى الجزء (S-7) من الإضافة.

٢-٣ مسؤوليات الدولة: مراقبة الشاحن (DGP/23-WP/21)

١-٢-٣ لقد تم الإقرار بأن الشاحنين يشكلون عنصراً رئيسياً في سلسلة إمدادات آمنة في أثناء الاجتماعين العاشر والحادي عشر للفريق العامل التابع لفريق الخبراء المعني بالبضائع الخطرة DGP-WG/10 و DGP-WG/11 (انظر الفقرة ٣-١-٣ من الوثيقة DGP/23-WP/2 (بالانجليزية فقط)، والفقرة ٢-١-٣ من الوثيقة DGP/23-WP/3 (بالانجليزية فقط)). كما تم الإقرار أيضاً بالصعوبات التي تواجهها بعض الدول في تنفيذ نظام لتدقيق أعمال الشاحنين، نظراً للعدد الهائل من الشاحنين في تلك الدول. لذلك فقط طلب إلى أعضاء فريق الخبراء الذين تطبق في دولهم حالياً برامج تفتيش للشاحنين تقديم معلومات عامة بشأن الأدوات والمناهج والسياسات التي تستخدمها.

٢-٢-٣ وتم توصيف نهج معتمد في إحدى الدول ينطوي على تحديد أولويات التفتيش على أساس المخاطر من خلال المعرفة المكتسبة بواسطة بيانات مجموعة من مختلف مصادر عمليات الشاحنين. وتم وضع قائمة بستة عناصر أساسية كمكونات لهذا النظام من التدقيق: معرفة إجراءات الشاحنين، وتحديد الأولويات (إدارة مخاطر السلامة)، وأنشطة التفتيش، والمسائل المتعلقة بالتفتيش، والتطبيق، والتوعية.

٣-٢-٣ وعُرِضت على الاجتماع مواد إرشادية قائمة على أساس نظام تدقيق الدول للنظر فيها كجزء جديد من الإضافة بشأن مسؤوليات الدولة فيما يتعلق بالشاحنين. وتم الإعراب عن بعض القلق كون المواد الإرشادية تستند إلى الافتراض بأن مهمة الرقابة ستوكل إلى سلطة الطيران المدني في الدولة. ولن يكون الأمر كذلك في بعض الدول. وقيل أن الاستعاضة عن عبارة المفتش بعبارة "وكيل مخول من الدولة" من شأنها معالجة هذه المسألة.

٤-٢-٣ وإقراراً من فريق الخبراء بأن المواد الإرشادية لا يقصد بها أن تكون شرطاً إلزامياً، فقد رأى الفريق أن يقدم المساعدة التي تحتاج إليها الدول حاجة ماسة، خاصة تلك التي تتوفر لديها موارد محدودة أو التي تقوم بإعداد برامج للبضائع الخطرة.

٣-٢-٥ وتمت الموافقة على التعديل بصيغته المنقحة، مع أخذ التعليقات الصادرة عن فريق الخبراء في الاعتبار.

٣-٣ الإفصاح الطوعي عن عدم امتثال المشغل (DGP/23-WP/22)

٣-٣-١ جرى تقديم مقترح لإلغاء النص الجديد الوارد في الفقرة ٤-٦ من الجزء ٧ المتفق عليه في الاجتماع الحادي عشر للفريق العامل التابع لفريق الخبراء المعني بالبضائع الخطرة (DGP-WG/11) الذي كان يطلب إلى المشغلين القيام بالإبلاغ عن خرق بعض الأحكام الواردة تحت الجزء السابع من التعليمات الفنية للنقل الآمن للبضائع الخطرة. وعلى الرغم من تأكيد النية الواردة في المقترح الأساسي، فقد اعتبر أن الطلب من المشغلين الإبلاغ عن عدم امتثالهم بالذات يمكن أن تكون له انعكاسات سلبية. فمن جهة، يمكن للإبلاغ الذاتي غير العقابي أن يكون مهماً لكشف النواقص المنهجية ومعالجتها. ولكن من جهة ثانية يمكن أن يُسفر الإبلاغ الذاتي غير العقابي عن إضعاف سلطة الدولة للتنفيذ. ويمكن أن يكون لهذا أثر سلبي على السلامة في الحالات التي يتبين فيها أن التنفيذ هو الأداة الفعالة الوحيدة لمواجهة المشغلين المهملين. وكحل لذلك، اقترح بأن أي إعفاء كامل أو جزئي للمشغل من المعاقبة يتوقف على قيام المشغل بتوفير خطة عمل تصحيحية فعالة مع تقديم تقرير عن الحادث. وأبلغ مقدم الاقتراح بأن مثل هذا النظام قد طُبّق بنجاح في دولته. وقدمت إلى الاجتماع إرشادات بشأن وضع الدول لمثل هذه البرامج الطوعية للكشف الذاتي من قبل المشغلين.

٣-٣-٢ وعلى الرغم من عدم موافقة فريق الخبراء على إلغاء الشرط الجديد المطلوب لقيام المشغلين بالإبلاغ، فقد كان هناك تأييد للهدف المقصود من المواد الإرشادية. وتم الاتفاق بأن يتم النظر في هذه المواد في أثناء فترة السنتين القادمة لإدراجها في الإضافة إلى التعليمات الفنية للنقل الآمن للبضائع الخطرة.

٣-٤ التنقيحات المدخلة على المعلومات المتعلقة بالفئة الأولى من البضائع الخطرة (DGP/23-WP/29)، والتنقيحات المدخلة على المعلومات المتعلقة بالفئة الثانية من البضائع الخطرة (DGP/23-WP/26)، والتنقيحات المدخلة على المعلومات المتعلقة بالفئات ٣ إلى ٩ من البضائع الخطرة (DGP/23-WP/27)

٣-٤-١ استعرض فريق الخبراء المعني بالبضائع الخطرة التعديلات المقترحة على الجزأين S-2 و S-4 من الإضافة. واستندت التعديلات على استعراض منهجي لكيفية تطبيق المعلومات المتعلقة بقوائم البضائع الخطرة وتعليمات التغليف المعتمدة بالنسبة لمواد مشابهة. وتمت مراجعة هيكلية الجزأين وأخرجت بضائع من كل فئة من قائمة البضائع الخطرة وجمعت في جداول مستقلة. وأدرجت تعليمات تتعلق بالتغليف بالنسبة لكل فئة بعد الجدول الذي تنطبق عليه.

٣-٤-٢ وانعقد اجتماع لفريق عمل لاستعراض التعديلات المقترحة. وأبلغ الفريق عن تحقيق تقدم هام في تحسين المعلومات المتضمنة في الإضافة. فالتنقيحات المدخلة على تعليمات التغليف المتعلقة بالفئة الأولى أصبحت مكتملة بشكل أساسي. والتنقيحات على الفئة الثانية أصبحت شبه جاهزة، ولكن ما تزال هناك بعض المسائل العالقة. وهناك مزيد من المسائل العالقة بالنسبة للفئات ٣ إلى ٩.

٣-٤-٣ وهناك مسألة ينبغي أن تثار في الأمم المتحدة اكتشفها الفريق العامل من خلال استعراضه للعديد من المواد التي كانت ممنوعة على متن طائرات الركاب والتي سمح بها بكميات مستثناة في النظام النموذجي. وقد وافق أمين الفريق العامل على تجميع هذه المسائل وعرضها على الاجتماع المقبل للجنة الفرعية التابعة للأمم المتحدة.

٤-٤-٣ وأعرب فريق الخبراء المعني بالبضائع الخطرة عن تقديره للفريق العامل، وأقر بأن مجالات عديدة من الإضافة قد أصبحت قديمة. وتم إعداد اقتراح منقح بالاستناد إلى التعليقات التي أبداهها فريق الخبراء. واتفق على وجوب إدراج التعديلات المنقحة على الإضافة.

٥-٣ الإرشادات إلى الدول فيما يتعلق بالإعفاءات والموافقات (DGP/23-WP/28)

١-٥-٣ أعيد تذكير فريق الخبراء المعني بالبضائع الخطرة بنتائج تدقيق مراقبة السلامة من قبل الايكاو التي بينت أن دولاً عديدة تفنقر إلى إجراءات معتمدة لمعالجة وتقييم وإصدار إعفاءات ومصادقات بموجب التعليمات الفنية للنقل الآمن للبضائع الخطرة. وبناء عليه، تم إعداد مواد إرشادية من قبل أحد الأعضاء، واقترح إدراجها في الإضافة.

٢-٥-٣ تتضمن المواد الإرشادية قائمة بالإجابات على الأسئلة التي يتكرر طرحها. واقترح إدراج سؤال وإجابته عمّا إذا كان من الممكن نقل بعض البضائع الخطرة الممنوعة من النقل تحت أي ظرف من الظروف، وعلى أن تكون هذه البضائع مختلفة عن البضائع الخطرة التي يمكن نقلها من خلال موافقة أو إعفاء. وتم الاتفاق على ذلك.

٣-٥-٣ أشار أمين فريق الخبراء إلى أن المواد الإرشادية ستكون موضع ترحيب كبير من قبل أعضاء قسم التدقيق المستمر لأمن الطيران في الايكاو، الذين غالباً ما يطلب إليهم تقديم مواد إرشادية إضافية إلى الدول. ولهذه المعلومات قيمة تقدّر بثمن لدى الدول التي تحاول إعداد برامج للبضائع الخطرة.

٤-٥-٣ وتمت مناقشة مسألة ما إذا كان ينبغي إدراج هذه المواد في الإضافة أو عرضها ببساطة على موقع الايكاو على الانترنت. ونصح أمين فريق الخبراء بأنه طالما أن الإضافة تحتوي بالفعل على مواد إرشادية للدول فسيكون من المناسب إدراجها الآن في تلك الوثيقة.

٥-٥-٣ تمت الموافقة على التعديل بصيغته المنقحة.

٦-٣ مسودة التعديلات على الإضافة لكي تتماشى التعليمات الفنية للنقل الآمن للبضائع الخطرة مع توصيات الأمم المتحدة (DGP/23-WP/30)

١-٦-٣ استعرض الاجتماع التعديلات على الإضافة على التعليمات الفنية للنقل الآمن للبضائع الخطرة بحيث تراعي القرارات المتخذة من قبل لجنة الأمم المتحدة في دورتها الخامسة (جنيف، ١٠ ديسمبر/كانون الأول ٢٠١٠). كما روعيت في التعديلات المقترحات المتفق عليها من قبل الاجتماعين العاشر والحادي عشر للفريق العامل التابع لفريق الخبراء المعني بالبضائع الخطرة (DGP-WG/10) و (DGP-WG/11).

٢-٦-٣ وتم استعراض التعديلات المدخلة على تعليمات التغليف بموجب ورقات العمل (DGP/23-WP/26)، و (DGP/23-WP/27) و (DGP/23-WP/29) (انظر الفقرة ٤-٣).

٣-٦-٣ وأصبحت المراجع قديمة في الأمم المتحدة بالنسبة لتعليمات التغليف من الدرجة الأولى. وسيتم إلغاء هذه المراجع.

٤-٦-٣ وتم الاتفاق على التعديلات بالصيغة المنقحة.

٧-٣ التوصيات

١-٧-٣ وضع الاجتماع التوصية التالية في ضوء المناقشات الأتفة الذكر:

التوصية ١/٣ - تعديل على الإضافة على التعليمات الفنية للنقل
الآمن للبضائع الخطرة (Doc 9284, Supp)

أن تعدل الإضافة على التعليمات الفنية وفق ما ورد في مرفق
التقرير عن هذا البند من جدول الأعمال.

APPENDIX

**PROPOSED AMENDMENTS TO THE SUPPLEMENT TO THE
TECHNICAL INSTRUCTIONS**

See paragraph 3.3.3 of DGP/23-WP/3 (English only):

Part S-1

GENERAL

**(ADDITIONAL INFORMATION
FOR PART 1 OF THE
TECHNICAL INSTRUCTIONS)**

Chapter 1

SCOPE AND APPLICABILITY

...

1.1 DESIGNATION OF NATIONAL AUTHORITY

...

1.1.2 In addition, contact information for other agencies responsible for specific classes (e.g. radioactive material, infectious substances) or for specific actions (e.g. issuance of approvals or exemptions) should be included.

Note.— For the separation of explosives, see Part S-7;2.3.

...

See paragraph 3.5 of this report:

Insert the following new Attachment:

ATTACHMENT I TO CHAPTER 1

GUIDANCE FOR PROCESSING EXEMPTIONS AND APPROVALS FOR THE SAFE TRANSPORT OF DANGEROUS GOODS BY AIR FOR INCLUSION IN THE SUPPLEMENT TO THE TECHNICAL INSTRUCTIONS

A. General Guidance

The *Technical Instructions for the Safe Transport of Dangerous Goods by Air* provide requirements to safely transport dangerous goods by air. These requirements often exceed the requirements of other modes of transport commensurate with the unique and sensitive nature of air transport.

Part 1 of the Technical Instructions provides for the issuance of approvals and exemptions in certain instances as described in 1;1.1.2. States which issue an exemption or approval should have a review process in place and exercise the appropriate technical competency to conduct a thorough evaluation and impose the necessary safety measures to ensure that the conditions of the exemption or approval issued provide an equivalent level of safety to the requirements of the Technical Instructions.

Who must obtain an exemption or approval?

The responsibility for obtaining an exemption may rest with the operator or with the shipper depending on the nature of the request and on State procedures.

When may States grant exemptions or approvals from the provisions of the Technical Instructions?

Approvals may be issued where specifically provided for in the Technical Instructions. Exemptions may be granted in cases of extreme urgency, or when other forms of transport are inappropriate, or full compliance with the prescribed requirements is contrary to public interest.

What are the responsibilities of the requestor?

It is the responsibility of the requestor to identify the specific requirements of the Technical Instructions from which relief is sought, and ensure that supporting information is provided which demonstrates that the proposed transport provisions equal or exceed the level of safety provided by the Technical Instructions.

What is an equivalent level of safety?

It is important for States to ensure that an equivalent level of safety is maintained in the issuance of any exemption or approval. An equivalent level of safety is maintained when compensating measures ensure the overall level of safety equals by that of the Technical Instructions. An equivalent level of safety evaluation will consider:

- The applicable requirements from which relief is sought;
- The compensating modifications, limitations, restrictions or equipment imposed;
- How these modifications provide an equivalent level of safety to the requirements of the Technical Instructions.

Can forbidden dangerous goods ever be transported?

Some dangerous goods designated as forbidden may be transported if certain conditions are met. The provisions of the Technical Instructions and this Supplement should be followed if there is a need to transport these substances.

Other dangerous goods cannot be carried on aircraft under any circumstance. These include articles or substances which, as presented for transport, are liable to explode, dangerously react, produce a flame or dangerous evolution of heat or dangerous emission of toxic, corrosive or flammable gases or vapours under conditions normally encountered in transport. Dangerous goods meeting this description are included in the Dangerous Goods List (Table 3-1) of the Technical Instructions with the word "Forbidden" shown in columns 2 and 3, but this list is not inclusive. It is essential that appropriate care be exercised to ensure that no goods meeting this description are offered for transport.

What packaging standards should be considered?

Where an entry in Table S-3-1 has a number in parenthesis after the word "Forbidden", this refers to a packing instruction which contains the method of packing that should be specified when issuing an exemption. As far as possible, appropriate packing instruction numbers are indicated in columns 9 to 12 of TaAzble S-3-1 and the associated detailed requirements appear in Part S-4, where these are additional to those given in the Technical Instructions.

What quantity limitations should be considered?

The suggested maximum quantity limitations to be permitted are indicated in Table S-3-2 or S-3-3 for some classes and divisions.

May an approval be granted to authorize the transport of a forbidden explosive?

Explosives transported in excess of their authorized quantities and forbidden explosives may only be transported under the provisions of an approval.

B. CONSIDERATIONS FOR EXEMPTIONS AND APPROVALS

It is recognized that competent authorities may have varying formats for issuing exemptions and approvals. The following information is suggested for consideration by States when issuing such documents:

- A synopsis the exemption or approval's scope and purpose. This should include the reason the exemption or approval is necessary.
- The authority under which the exemption or approval is issued. For an exemption, Part 1, Chapter 1, paragraph 1.1.2 should be cited. For an approval, the specific approval citation within the Technical Instructions should be listed. The issuing State's national legislation or authority may also be listed.
- A description of the dangerous goods authorized. At a minimum this information should include the UN number, proper shipping name, class, subsidiary risk, and packing group.
- Specific provisions on how the dangerous goods must be prepared for shipment under the exemption/approval authorization. These provisions should demonstrate that an equivalent level of safety has been determined.
- The conditions of transport for example authorized packaging, quantities, and any additional hazard communication elements that may apply.
- Any special conditions that may apply such as whether persons other than the grantee may re-offer the dangerous goods for subsequent transportation.
- Any limitations that may apply for example whether the approval is limited to a single instance, to a specific operator, or any other limitations that may apply.
- Whether transport by passenger and/or cargo aircraft is authorized.
- Any special reporting requirements relevant to the reporting of any incident associated with the exemption or approval.

Additional considerations for the operator must also be addressed. Safety conditions for operators to address may include:

- Restrictions on the location and of loading and unloading.
- Restrictions on the time of day of the flight to day light hours (including loading and unloading).
- Restrictions to take-off or landing only in visual meteorological conditions.
- Flight planning to avoid population dense areas.
- Restrictions on the use of hand held transmitting devices in the vicinity of the dangerous goods.
- Restrictions on the use of aircraft radios and radar during loading and unloading.
- Restrictions on the passengers onboard.
- Carriage of additional fire firefighting equipment.
- Additional segregation requirements.

The considerations above are not exhaustive. A full hazard identification and risk assessment should be conducted prior to the State's issuance of approvals and exemptions.

Part S-3. DANGEROUS GOODS LIST AND LIMITED QUANTITIES EXCEPTIONS
(additional information for Part 3 of the Technical Instructions)

See the attachments to this working paper for amendments to Table S-3-1.

...

Chapter 3

SPECIAL PROVISIONS

Table S-3-4. Special Provisions

...

TIs UN

...

See paragraph 3.2.26 of DGP/23-WP/3 (English only):

A202

For the purpose of providing life support for aquatic animals during transport, the appropriate authority of the States of Origin, of Destination and of the Operator may approve the carriage of ~~a~~ cylinders containing oxygen compressed, UN 1072 and Air, compressed UN 1002, with the valve(s) open to supply a controlled quantity of oxygen or air through a regulator into water containing the aquatic animals. The cylinder or cylinder valve must be fitted with a self-sealing device to prevent uncontrolled release of oxygen or air should the regulator malfunction or be broken or damaged. The oxygen or air cylinder must meet those parts of Packing Instruction 200 which apply, except for the need for valves to be closed. In addition, the following conditions apply as a minimum:

- a) the water container with the attached oxygen and/or air cylinder (transportation unit) must be engineered and constructed to withstand all anticipated loads. No more than two cylinders of which a maximum is one cylinder of oxygen are permitted;
- b) the water container must be tilt-tested at an angle of 45° in four directions from the upright for a 10-minute minimum duration in each direction with the oxygen supply operating, without leakage of water;
- c) the oxygen or air cylinder and regulator must be restrained and protected within the equipment;
- d) the oxygen or air regulator used must have a maximum flow rate of not more than five litres per minute;
- e) the oxygen or air flow rate to the container must be limited to that sufficient to provide life support to the aquatic animals;
- f) the quantity of oxygen or air provided must not exceed 150 per cent of the oxygen or air required for the normal duration of air transport; and
- g) only one cylinder may be carried for each 15 cubic metres of gross cargo hold volume. In no circumstances may the rate of oxygen or air flow from the cylinder exceed one litre per minute per five cubic metres of gross cargo hold volume.

See paragraph 3.6 of this report:

A218

This substance must not be transported under the provisions of Division 4.1 unless specifically authorized by the appropriate national authority (see UN 0143 or UN 0150 as appropriate).

...

TIs *UN*

A225 (358) Nitroglycerin solution in alcohol with more than 1 per cent but not more than 5 per cent nitroglycerin may be classified in Class 3 and assigned to UN 3064 provided all the requirements of Packing Instruction 371 are complied with.

...

Part S-4

PACKING INSTRUCTIONS

DGP/23 supported a proposal to group Table S-3-1 entries together by class followed by the applicable packing instructions of that class (i.e. Class 1 would be grouped together, Class 2 would be grouped together, and Classes 3 to 9 would be grouped together). For the purpose of this report, all amendments proposed to Parts 3 and 4 are presented in the same structure as the current edition of the Supplement. Subject to adoption by Council, the 2013-2014 Edition of the Supplement to Technical Instructions will be structured as agreed by DGP/23 (see paragraph 3.4 of this report).

...

Chapter 3

CLASS 1 — EXPLOSIVES

...

See paragraph 3.4 of this report:

3.2 GENERAL REQUIREMENTS

3.2.1 The general packing requirements of 4:1 of the Technical Instructions must be met.

3.2.2 All packagings for Class 1 explosives must be so designed and constructed that:

- a) they will protect the explosives, prevent them from escaping and cause no increase in the risk of unintended ignition or initiation when subjected to normal conditions of transport including foreseeable changes in temperature, humidity and pressure;
- b) the complete package can be handled safely in normal conditions of transport; and
- c) the packages will withstand any loading imposed on them by foreseeable stacking to which they will be subject during transport so that they do not add to the risk presented by the explosives, the containment function of the packagings is not harmed, and they are not distorted in a way or to an extent which will reduce their strength or cause instability of a stack.

3.2.3 All explosive substances and articles, as prepared for transport, must have been classified in accordance with the procedures detailed in 2:1.5 of the Technical Instructions.

3.3 GENERAL PACKING PROVISIONS

3.3.1 The general provisions detailed below are in addition to those in Part 4, Chapter 1 of the Technical Instructions.

3.3.1.1 The closure device of packagings containing liquid explosives must ensure a double protection against leakage.

3.3.1.2 The closure device of metal drums must include a suitable gasket; if a closure device includes a screw-thread, the ingress of explosive substances into the screw-thread must be prevented.

3.3.1.3 Packagings for water soluble substances must be water-resistant.

3.3.1.4 When the packaging includes a double envelope filled with water which may freeze during transport, a sufficient quantity of an anti-freeze agent must be added to the water to prevent freezing. Anti-freeze that could create a fire hazard because of its inherent flammability must not be used.

3.3.1.5 Nails, staples and other closure devices made of metal without protective covering must not penetrate to the inside of the outer packaging unless the inner packaging adequately protects the explosives against contact with the metal.

3.3.1.6 Inner packagings, fittings and cushioning materials and the placing of explosive substances or articles in packages must be accomplished in a manner which prevents the explosive substances or articles from becoming loose in the outer packaging under normal conditions of transport. Metallic components of articles must be prevented from making contact with metal packagings. Articles containing explosive substances not enclosed in an outer casing must be separated from each other in order to prevent friction and impact. Padding, trays, partitioning in the inner or outer packaging, mouldings or receptacles may be used for this purpose.

3.3.1.7 Packagings must be made of materials compatible with, and impermeable to, the explosives contained in the package, so that neither interaction between the explosives and the packaging materials, nor leakage, causes the explosive to become unsafe to transport, or the hazard division or compatibility group to change.

3.3.1.8 The ingress of explosive substances into the recesses of seamed metal packagings must be prevented.

3.3.1.9 Plastic packagings must not be liable to generate or accumulate sufficient static electricity so that a discharge could cause the packaged explosive substances or articles to initiate, ignite or function.

3.3.1.10 Explosive substances must not be packed in inner or outer packagings where the differences in internal and external pressures, due to thermal or other effects, could cause an explosion or rupture of the package.

3.3.1.11 Whenever loose explosive substances or the explosive substance of an uncased or partly cased article may come into contact with the inner surface of metal packagings (1A2, 1B2, 4A, 4B and metal receptacles), the metal packaging must be provided with an inner liner or coating (see 1.1.3 of the Technical Instructions).

3.3.1.12 Packing Instruction 101 may be used for any explosive provided the package has been approved by an appropriate national authority regardless of whether the packaging complies with the packing instruction assignment in the Dangerous Goods List.

3.3.1.13 Electro-explosive devices must be adequately protected against electro-magnetic radiation and stray currents.

3.3.1.14 Large and robust explosive articles, normally intended for military use, without their means of initiation or without their means of initiation containing at least two effective protective features, may be carried unpackaged. When such articles have propelling charges or are self-propelled, their ignition systems must be protected against stimuli encountered during normal conditions of transport. A negative result in Test Series 4 on an unpackaged article indicates that the article can be considered for transport unpackaged. Such unpackaged articles may be fixed to cradles or contained in crates or other suitable handling, storage or launching devices in such a way that they will not become loose during normal conditions of transport.

3.3.1.14.1 Where such large explosive articles are, as part of their operational safety and suitability tests, subjected to test regimes that meet the intentions of the Technical Instructions and such tests have been successfully undertaken, the appropriate national authority may approve such articles to be transported under the Technical Instructions.

Note 1.— The term receptacle used in the Inner and Intermediate packaging columns of this table includes boxes, bottles, cans, drums, jars and tubes, including any means of closure.

Note 2.— Reels are devices made of plastics, wood, fibreboard, metal or other suitable material comprising a central spindle with, or without, side walls at each end of the spindle. Articles and substances can be wound onto the spindle and may be retained by side walls.

Note 3.— Trays are sheets of metal, plastics, wood, fibreboard or other suitable material which are placed in the inner, intermediate or outer packaging and achieve a close-fit in such packaging. The surface of the tray may be shaped so that packagings or articles can be inserted, held secure and separated from each other.

3.2 PACKING INSTRUCTIONS

See paragraph 3.6 of this report).

110	PACKING INSTRUCTION 110 (UN packing method EP 10)		110
<p>a) <i>Inner packagings</i></p> <p>Bags plastics textile, plastic-coated or lined rubber textile, rubberized</p> <p><u>Receptacles</u> <u>wood</u></p>	<p><i>Intermediate packagings</i></p> <p>Bags plastics textile, plastic-coated or lined rubber textile, rubberized</p> <p>Receptacles metal plastics <u>wood</u></p>	<p><i>Outer packagings</i></p> <p>Drums <u>other metal (1N1, 1N2)</u> plastics, removable head (1H1, 1H2) steel, removable head (1A1, 1A2)</p>	
<p>PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:</p> <ul style="list-style-type: none"> — The intermediate packagings must be filled with water-saturated material such as an anti-freeze solution or wetted cushioning. — Outer packagings must be filled with water-saturated material such as an anti-freeze solution or wetted cushioning. Outer packagings must be constructed and sealed to prevent evaporation of the wetting solution, except when UN 0224 is being carried dry. 			
<p>b) <i>Inner packagings</i></p> <p>Bags plastics, conductive rubber, conductive</p> <p>Receptacles metal plastics, conductive rubber, conductive wood</p>	<p><i>Intermediate packagings</i></p> <p>Dividing partitions fibreboard metal plastics wood</p>	<p><i>Outer packagings</i></p> <p>Boxes natural wood, with sift-proof walls (4C2) plywood (4D) reconstituted wood (4F)</p>	
<p>PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:</p> <p>For UN 0074, 0113, 0114, 0129, 0130, 0135 and 0224, the following conditions must be satisfied:</p> <ol style="list-style-type: none"> a) inner packagings must not contain more than 50 g of explosive substance (quantity corresponding to dry substance); b) compartments between dividing partitions must not contain more than one inner packaging, firmly fitted; and c) the outer packaging must be partitioned into up to 25 compartments. 			

111	PACKING INSTRUCTION 111 (UN-packing method EP-11)	111
<p><i>Inner packagings</i></p> <p>Bags paper, waterproofed plastics textile, rubberized</p> <p><u>Receptacles</u> <u>wood</u></p> <p>Sheets plastics textile, rubberized</p>	<p><i>Intermediate packagings</i></p> <p>Not necessary</p>	<p><i>Outer packagings</i></p> <p>Boxes aluminium (4B) expanded plastics (4H1) fibreboard (4G) natural wood, ordinary (4C1) natural wood, with sift-proof walls (4C2) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) steel (4A)</p> <p>Drums aluminium, removable head (1B1, 1B2) fibreboard (1G) <u>other metal (1N1, 1N2)</u> plastics, removable head (1H1, 1H2) plywood (1D) steel, removable head (1A1, 1A2)</p>
<p>PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:</p>		
<p>Corrigendum to UN Model Regulations (Seventeenth revised Edition) ST/SG/AC.20/1/Rev.17/Corr.1:</p>		
<p>— For UN 0159, inner packagings are not required when metal (1A1, 1A2, 1B1, or 1B2, 1N1 or 1N2) or plastics (1H1 or 1H2) drums are used as outer packagings.</p>		

See paragraph 3.6 of this report:

112	PACKING INSTRUCTION 112 (UN-packing method EP-12)	112
<p>a) solid wetted 1.1D</p>		
<p><i>Inner packagings</i></p> <p>Bags paper, multiwall, water-resistant plastics textile textile, rubberized woven plastics</p> <p>Receptacles metal plastics <u>wood</u></p>	<p><i>Intermediate packagings</i></p> <p>Bags plastics textile, plastic-coated or lined</p> <p>Receptacles metal plastics <u>wood</u></p>	<p><i>Outer packagings</i></p> <p>Boxes aluminium (4B) expanded plastics (4H1) fibreboard (4G) natural wood, ordinary (4C1) natural wood, with sift-proof walls (4C2) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) steel (4A)</p> <p>Drums aluminium, removable head (1B1, 1B2) fibre (1G) <u>other metal (1N)</u> plastics, removable head (1H1, 1H2) steel, removable head (1A1, 1A2)</p>

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

- For UN 0004, 0076, 0078, 0154, 0219 and 0394, packagings must be lead-free.
- Intermediate packagings are not required if leakproof drums are used as the outer packaging.
- For UN 0072 and UN 0226, intermediate packagings are not required.

b) solid dry, other than powder 1.1D

Inner packagings

Bags
 paper, kraft
 paper, multiwall, water-resistant
 plastics
 textile
 textile, rubberized
 woven plastics

Intermediate packagings

Bags (for 0150 only)
 plastics
 textile, plastic-coated or lined

Outer packagings

Bags
 paper, multiwall, water-resistant (5M2)
 plastics, film (5H4)
 textile, sift-proof (5L2)
 textile, water-resistant (5L3)
 woven plastics, sift-proof (5H2) ~~(3)~~
woven plastics, water-resistant (5H3)

Boxes
 aluminium (4B)
 expanded plastics (4H1)
 fibreboard (4G)
 natural wood, ordinary (4C1)
 natural wood, with sift-proof walls (4C2)
other metal (4N)
 plywood (4D)
 reconstituted wood (4F)
 solid plastics (4H2)
 steel (4A)

Drums
 aluminium, ~~removable head~~ (1B1, 1B2)
 fibre (1G)
other metal (1N1, 1N2)
 plastics, removable head (1H2)
 steel, ~~removable head~~ (1A1, 1A2)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

- For UN 0004, 0076, 0078, 0154, 0216, 0219 and 0386, packagings must be lead-free.
- For UN 0209, bags, sift-proof (5H2) are recommended for flake or prilled TNT in the dry state and a maximum net mass of 30 kg.
- For UN 0222 and UN 0223, inner packagings are not required when the outer packaging is a bag.

c) for solid dry powder 1.1D

Inner packagings

Bags
 paper, multiwall, water-resistant
 plastics
 woven plastics

Receptacles
 fibreboard
 metal
 plastics
 wood

Intermediate packagings

Bags (for 1050 only)
 paper, multiwall, water-resistant
 with inner lining
 plastics

Receptacles
 metal
 plastics
wood

Outer packagings

Boxes
 fibreboard (4G)
other metal (4N)
 natural wood, ordinary (4C1)
 natural wood, with sift-proof walls (4C2)
 plywood (4D)
 reconstituted wood (4F)
 solid plastics (4H2)
 steel (4A)

Drums
 aluminium, ~~removable head~~ (1B1, 1B2)
 fibre (1G)
other metal (1N1, 1N2)
 steel, ~~removable head~~ (1A1, 1A2)

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

- For UN 0004, 0076, 0078, 0154, 0216, 0219 and 0386, packagings must be lead-free.
- For UN 0209, bags, sift-proof (5H2) are recommended for flake or prilled TNT in the dry state and a maximum net mass of 30 kg.
- Inner packagings are not required if drums are used as the outer packaging.
- These packages must be sift-proof.

113	PACKING INSTRUCTION 113 (UN-packing method EP-13)		113
<i>Inner packagings</i> Bags paper plastics textile, rubberized Receptacles fibreboard metal plastics wood Sheets paper, kraft paper, waxed	<i>Intermediate packagings</i> Not necessary	<i>Outer packagings</i> Boxes aluminium (4B) fibreboard (4G) natural wood, ordinary (4C1) natural wood, with sift-proof walls (4C2) other metal (4N) plywood (4D) reconstituted wood (4F) solid plastics (4H2) steel (4A) Drums aluminium, removable head (1B1, 1B2) fibre (1G) other metal (1N1, 1N2) steel, removable head (1A1, 1A2)	
PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS: <ul style="list-style-type: none"> — For UN 0094 and UN 0305, no more than 50 g of substance must be packed in an inner packaging. — For UN 0027, inner packagings are not necessary when drums are used as the outer packaging. — Packages must be sift-proof. — Sheets may only be used for UN 0028. 			

115	PACKING INSTRUCTION 115 (UN-packing method EP-15)		115
<i>Inner packagings</i> Receptacles metal plastics wood	<i>Intermediate packagings</i> Bags plastics in metal receptacles Drums metal Receptacles wood	<i>Outer packagings</i> Boxes fibreboard (4G) natural wood, ordinary (4C1) natural wood, with sift-proof walls (4C2) other metal (4N) plywood (4D) reconstituted wood (4F) Drums aluminium, removable head (1B1, 1B2) fibre (1G) other metal (1N1, 1N2) plywood (1D) steel, removable head (1A1, 1A2)	

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

- For UN 0075, 0143, 0495 and 0497 when boxes are used as the outer packaging, inner packagings must have taped screw cap closures and be not more than 5 litres capacity each. Inner packagings must be surrounded with non-combustible absorbent cushioning materials. The amount of absorbent cushioning material must be sufficient to absorb the liquid contents. Metal receptacles must be cushioned from each other. Net mass of propellant is limited to 30 kg for each package when outer packagings are boxes.
- For UN 0075, 0143, 0495 and 0497 when drums are used as the outer packaging and when intermediate packagings are drums, they must be surrounded with non-combustible cushioning material in a quantity sufficient to absorb the liquid contents. A composite packaging consisting of a plastic receptacle in a metal drum may be used instead of the inner and intermediate packagings. The net volume of propellant in each package must not exceed 120 litres.
- For UN 0144, absorbent cushioning material must be inserted.
- Metal receptacles as inner packagings must only be used for UN 0144.
- For UN 0075, 0143, 0495 and 0497, bags are to be used as intermediate packagings when boxes are used as outer packagings.
- For UN 0075, 0143, 0495 and 0497, drums are to be used as intermediate packagings when drums are used as outer packagings.
- For UN 0144, intermediate packagings are not necessary.
- Fibreboard boxes (4G) should only be used for UN 0144.
- For UN 0144, aluminium drums, ~~removable head (1B1 and 1B2)~~ and metal, other than steel or aluminium, drums (1N1 and 1N2), are not ~~allowed~~ permitted.

116

PACKING INSTRUCTION 116

116

(UN packing method EP 16)*Inner packagings***Bags**

paper, water and oil resistant
plastics
textile, plastic-coated or lined
woven plastics, sift-proof

Receptacles

fibreboard, water-resistant
metal
plastics
wood, sift-proof

Sheets

paper, water-resistant
paper, waxed
plastics

Intermediate packagings

Not necessary

*Outer packagings***Bags**

paper, multiwall, water-resistant (5M2)
plastics, film (5H4)
textile, sift-proof (5L2)
textile, water-resistant (5L3)
woven plastics (5H1/2/3)

Boxes

aluminium (4B)
fibreboard (4G)
natural wood, ordinary (4C1)
natural wood, with sift-proof walls (4C2)
~~other metal (4N)~~
plywood (4D)
reconstituted wood (4F)
solid plastics (4H2)
steel (4A)

Drums

aluminium, ~~removable head (1B1, 1B2)~~
fibre (1G)
~~other metal (1N1, 1N2)~~
plastics, ~~removable head (1H1, 1H2)~~
steel, ~~removable head (1A1, 1A2)~~

Jerricans

plastics, ~~removable head (3H1, 3H2)~~
steel, ~~removable head (3A1, 3A2)~~

PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:

- For UN 0082, 0241, 0331 and 0332, inner packagings are not necessary if leakproof, removable head drums are used as the outer packaging.
- For UN 0082, 0241, 0331 and 0332, inner packagings are not required when the explosive is contained in a material impervious to liquid.
- For UN 0081, inner packagings are not required when contained in rigid plastic which is impervious to nitric esters.
- UN 0331, inner packagings are not required when bags (5H2), (5H3) or (5H4) are used as outer packagings.
- Bags (5H2 or 5H3) should be used only for UN 0082, 0241, 0331 and 0332.
- For UN 0081, bags must not be used as outer packagings.

132	PACKING INSTRUCTION 132 (UN-packing method EP-32)			132
a) Articles consisting of closed metal, plastic or fibreboard casings that contain a detonating explosive, or consisting of plastic-bonded detonating explosives				
<i>Inner packagings</i>		<i>Intermediate packagings</i>		<i>Outer packagings</i>
Not necessary		Not necessary		Boxes aluminium (4B) fibreboard (4G) natural wood, ordinary (4C1) natural wood, with sift-proof walls (4C2) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) steel (4A)
b) Articles without closed casings				
<i>Inner packagings</i>		<i>Intermediate packagings</i>		<i>Outer packagings</i>
Receptacles fibreboard metal plastics <u>wood</u> Sheets paper plastics		Not necessary		Boxes aluminium (4B) fibreboard (4G) natural wood, ordinary (4C1) natural wood, with sift-proof walls (4C2) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) steel (4A)
144	PACKING INSTRUCTION 144 (UN-packing method EP-44)			144
<i>Inner packagings</i>		<i>Intermediate packagings</i>		<i>Outer packagings</i>
Receptacles fibreboard metal <u>wood</u> plastics Dividing partitions in the outer packings		Not necessary		Boxes aluminium (4B) expanded plastics (4H1) natural wood, ordinary (4C1) with metal liner <u>other metal (4N)</u> plywood (4D) with metal liner reconstituted wood (4F) with metal liner steel (4A)
PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:				
— For UN 0248 and UN 0249, packagings must be protected against the ingress of water. When CONTRIVANCES, WATER ACTIVATED are transported unpackaged, they must be provided with at least two independent protective features which prevent the ingress of water.				

...

Chapter 4

CLASS 2 — GASES

See paragraph 3.4 of this report:

4.1 SPECIAL PACKING PROVISIONS FOR DANGEROUS GOODS OF CLASS 2

4.1.1 General requirements

4.1.1.1 This section provides general requirements applicable to the use of cylinders and closed cryogenic receptacles for the transport of Class 2 gases (e.g. UN 1072 **Oxygen, compressed**). Cylinders and closed cryogenic receptacles must be constructed and closed so as to prevent any loss of contents which might be caused under normal conditions of transport, including by vibration, or by changes in temperature, humidity or pressure (resulting from change in altitude, for example).

4.1.1.2 Parts of cylinders and closed cryogenic receptacles that are in direct contact with dangerous goods must not be affected or weakened by those dangerous goods and must not cause a dangerous effect (e.g. catalysing a reaction or reacting with the dangerous goods). In addition to the requirements specified in the relevant packing instruction, which take precedence, the applicable provisions of ISO 11114-1:1997 and ISO 11114-2:2000 must be met.

4.1.1.3 Cylinders and closed cryogenic receptacles, including their closures, must be selected that are able to contain a gas or a mixture of gases according to the requirements of 6:5.1.2 of the Technical Instructions and the requirements of the specific packing instructions of this Part.

4.1.1.4 Refillable cylinders must not be filled with a gas or gas mixture different from that previously contained unless the necessary operations for change of gas service have been performed. The change of service for compressed and liquefied gases must be in accordance with ISO 11621:1997, as applicable. In addition, a cylinder that previously contained a Class 8 corrosive substance or a substance of another class with a corrosive subsidiary risk must not be authorized for the transport of a Class 2 substance unless the necessary inspection and testing as specified in 6:5.1.6 of the Technical Instructions have been performed.

4.1.1.5 Prior to filling, the filler must perform an inspection of the cylinder or closed cryogenic receptacle and ensure that the cylinder or closed cryogenic receptacle is authorized for the gas to be transported and that the provisions of the Technical Instructions have been met. Shut-off valves must be closed after filling and remain closed during transport. The shipper must verify that the closures and equipment are not leaking.

4.1.1.6 Cylinders and closed cryogenic receptacles must be filled according to the working pressures, filling ratios and provisions specified in the appropriate packing instruction for the specific substance. Reactive gases and gas mixtures must be filled to a pressure such that if complete decomposition of the gas occurs, the working pressure of the cylinder must not be exceeded.

4.1.1.7 Cylinders and closed cryogenic receptacles, including their closures, must conform to the design, construction, inspection and testing requirements detailed in 6:5 of the Technical Instructions. When outer packagings are prescribed, the cylinders must be firmly secured therein. Unless otherwise specified in the detailed packing instructions, one or more inner packagings may be enclosed in an outer packaging.

4.1.1.8 Valves must be designed and constructed in such a way that they are inherently able to withstand damage without release of the contents or must be protected from damage, which could cause inadvertent release of the contents of the cylinder and closed cryogenic receptacle, by one of the following methods:

- a) Valves are placed inside the neck of the cylinder and closed cryogenic receptacle and protected by a threaded plug or cap;
- b) Valves are protected by caps. Caps must possess vent holes of a sufficient cross-sectional area to evacuate the gas if leakage occurs at the valves;
- c) Valves are protected by shrouds or guards;
- d) Not used; or
- e) Cylinders and closed cryogenic receptacles are transported in an outer packaging. The packaging as prepared for transport must be capable of meeting the drop test specified in 6:4.3 of the Technical Instructions at the Packing Group I performance level.

For cylinders and closed cryogenic receptacles with valves as described in b) and c), the requirements of ISO 11117:1998 must be met; for valves with inherent protection, the requirements of Annex A of ISO 10297:2006 must be met. For metal hydride storage systems, the valve protection requirements specified in ISO 16111:2008 must be met.

4.1.1.9 Non-refillable cylinders and closed cryogenic receptacles must:

- a) be transported in an outer packaging, such as a box, or crate, or in shrink-wrapped trays or stretch-wrapped trays;
- b) not used;
- c) not be repaired after being put into service.

4.1.1.10 Refillable cylinders, other than closed cryogenic receptacles, must be periodically inspected according to the provisions of 6:5.1.6 and Packing Instruction 200 or 214 of the Technical Instructions. Cylinders and closed cryogenic receptacles must not be filled after they become due for periodic inspection but may be transported after the expiry of the time limit.

4.1.1.11 Repairs must be consistent with the fabrication and testing requirements of the applicable design and construction standards and are only permitted as indicated in the relevant periodic inspection standards specified in 6:5.2.4 of the Technical Instructions. Cylinders, other than the jacket of closed cryogenic receptacles, must not be subjected to repairs of any of the following:

- a) weld cracks or other weld defects;
- b) cracks in walls;
- c) leaks or defects in the material of the wall, head or bottom.

4.1.1.12 Cylinders and closed cryogenic receptacles must not be offered for filling:

- a) when damaged to such an extent that the integrity of the cylinder and closed cryogenic receptacle or its service equipment may be affected;
- b) unless the cylinder and closed cryogenic receptacle and its service equipment have been examined and found to be in good working order; or
- c) unless the required certification, retest, and filling markings are legible.

4.1.1.13 Filled cylinders and closed cryogenic receptacles must not be offered for transport:

- a) when leaking;
- b) when damaged to such an extent that the integrity of the cylinder and closed cryogenic receptacle or its service equipment may be affected;
- c) unless the cylinder and closed cryogenic receptacle and its service equipment have been examined and found to be in good working order; or
- d) unless the required certification, retest, and filling markings are legible.

...

Packing instruction number changed to differentiate from Packing Instruction 213 in the Technical Instructions:

2130	PACKING INSTRUCTION 213 210	213 210
...		

...

Chapter 5

CLASS 3 — FLAMMABLE LIQUIDS

See paragraph 3.6 of this report:

306	PACKING INSTRUCTION 306	306
<p>The general packing requirements of Part 4, Chapter 1 of the Technical Instructions must be met.</p>		
<p>Single packagings are not permitted.</p>		
<p>COMBINATION PACKAGINGS:</p>		
<p>...</p>		
<p><i>OUTER:</i></p>		
<p><i>Boxes</i></p>	<p><i>Drums</i></p>	<p><i>Jerricans</i></p>
<p>fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)</p>	<p>aluminium (<u>1B1</u>, 1B2) fibre (1G) plastics (1H2) plywood (1D) steel (<u>1A1</u>, 1A2)</p>	<p>plastics (<u>3H1</u>, 3H2) steel (<u>3A1</u>, 3A2)</p>
<p>...</p>		

Chapter 6

CLASS 4 — FLAMMABLE SOLIDS; SUBSTANCES LIABLE TO SPONTANEOUS COMBUSTION; SUBSTANCES WHICH, IN CONTACT WITH WATER, EMIT FLAMMABLE GASES

See paragraph 3.4 of this report:

6.1 GENERAL REQUIREMENTS FOR SELF-REACTIVE SUBSTANCES

Unless otherwise provided in the Technical Instructions, the packagings used for self-reactive substances of Division 4.1 must meet Packing Group II requirements. To avoid unnecessary confinement, metal packaging meeting Packing Group I requirements must not be used.

...

See paragraph 3.6 of this report:

416	PACKING INSTRUCTION 416	416						
<p>The general packing requirements of Part 4, Chapter 1 of the Technical Instructions must be met. Single packagings are not permitted.</p> <p>COMBINATION PACKAGINGS:</p> <p>...</p> <p><i>OUTER:</i></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><i>Boxes</i></th> <th style="text-align: left;"><i>Drums</i></th> <th style="text-align: left;"><i>Jerricans</i></th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2) </td> <td style="vertical-align: top;"> aluminium (<u>1B1</u>, 1B2) fibre (1G) plastics (<u>1H1</u>, 1H2) plywood (1D) steel (<u>1A1</u>, 1A2) </td> <td style="vertical-align: top;"> plastics (<u>3H1</u>, 3H2) steel (<u>3A1</u>, 3A2) </td> </tr> </tbody> </table> <p>...</p>			<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>	fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (<u>1A1</u> , 1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)
<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>						
fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (<u>1A1</u> , 1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)						

418	PACKING INSTRUCTION 418	418						
<p>The general packing requirements of Part 4, Chapter 1 of the Technical Instructions must be met.</p> <p>Single packagings are not permitted.</p> <p>COMBINATION PACKAGINGS:</p> <p>...</p> <p><i>OUTER:</i></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 33%;"><i>Boxes</i></th> <th style="text-align: left; width: 33%;"><i>Drums</i></th> <th style="text-align: left; width: 33%;"><i>Jerricans</i></th> </tr> </thead> <tbody> <tr> <td> fibreboard (4G) plywood (4D) <u>other metal (4N)</u> reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2) </td> <td> aluminium (<u>1B1</u>, 1B2) fibre (1G) plastics (<u>1H1</u>, 1H2) plywood (1D) steel (1A2) </td> <td> plastics (<u>3H1</u>, 3H2) steel (<u>3A1</u>, 3A2) </td> </tr> </tbody> </table> <p>...</p>			<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>	fibreboard (4G) plywood (4D) <u>other metal (4N)</u> reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)
<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>						
fibreboard (4G) plywood (4D) <u>other metal (4N)</u> reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)						

421	PACKING INSTRUCTION 421	421						
<p>The general packing requirements of Part 4, Chapter 1 of the Technical Instructions must be met.</p> <p>All of the following packagings must meet Packing Group II performance requirements.</p> <p>COMBINATION PACKAGINGS:</p> <p>...</p> <p><i>OUTER:</i></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 33%;"><i>Boxes</i></th> <th style="text-align: left; width: 33%;"><i>Drums</i></th> <th style="text-align: left; width: 33%;"><i>Jerricans</i></th> </tr> </thead> <tbody> <tr> <td> expanded plastics (4H1) fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2) </td> <td> aluminium (<u>1B1</u>, 1B2) fibre (1G) plastics (<u>1H1</u>, 1H2) plywood (1D) steel (<u>1A1</u>, 1A2) </td> <td> plastics (<u>3H1</u>, 3H2) steel (<u>3A1</u>, 3A2) </td> </tr> </tbody> </table> <p>...</p>			<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>	expanded plastics (4H1) fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (<u>1A1</u> , 1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)
<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>						
expanded plastics (4H1) fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (<u>1A1</u> , 1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)						

422	PACKING INSTRUCTION 422	422																					
<p>The general packing requirements of Part 4, Chapter 1 of the Technical Instructions must be met.</p> <p>All of the following packagings must meet Packing Group II performance requirements.</p> <p>Single packagings are not permitted.</p> <p>COMBINATION PACKAGINGS:</p> <p>...</p> <p><i>OUTER:</i></p> <table border="0"> <thead> <tr> <th><i>Boxes</i></th> <th><i>Drums</i></th> <th><i>Jerricans</i></th> </tr> </thead> <tbody> <tr> <td>fibreboard (4G)</td> <td>aluminium (1B1, 1B2)</td> <td>steel (3A1, 3A2)</td> </tr> <tr> <td>other metal</td> <td>fibre (1G)</td> <td></td> </tr> <tr> <td>plywood (4D)</td> <td>plywood (1D)</td> <td></td> </tr> <tr> <td>reconstituted wood (4F)</td> <td>steel (1A1, 1A2)</td> <td></td> </tr> <tr> <td>solid plastics (4H2)</td> <td></td> <td></td> </tr> <tr> <td>wooden (4C1, 4C2)</td> <td></td> <td></td> </tr> </tbody> </table>			<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>	fibreboard (4G)	aluminium (1B1 , 1B2)	steel (3A1 , 3A2)	other metal	fibre (1G)		plywood (4D)	plywood (1D)		reconstituted wood (4F)	steel (1A1 , 1A2)		solid plastics (4H2)			wooden (4C1, 4C2)		
<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>																					
fibreboard (4G)	aluminium (1B1 , 1B2)	steel (3A1 , 3A2)																					
other metal	fibre (1G)																						
plywood (4D)	plywood (1D)																						
reconstituted wood (4F)	steel (1A1 , 1A2)																						
solid plastics (4H2)																							
wooden (4C1, 4C2)																							

Chapter 7

CLASS 5 — OXIDIZING SUBSTANCES; ORGANIC PEROXIDES

See paragraph 3.4 of this report:

7.1 GENERAL REQUIREMENTS FOR ORGANIC PEROXIDES

7.1.1 Unless otherwise provided in the Technical Instructions, the packaging used for goods of Division 5.2 must meet Packing Group II requirements. To avoid unnecessary confinement, metal packaging meeting Packing Group I requirements must not be used.

7.1.2 Venting of packages is not permitted for air transport.

7.1.3 The packaging of organic peroxides presenting an explosive subsidiary risk must comply with the provisions of 4:3.2.2 and 4:3.2.3 of the Technical Instructions.

...

See paragraph 3.6 of this report:

501	PACKING INSTRUCTION 501	501						
<p>The general packing requirements of Part 4, Chapter 1 of the Technical Instructions must be met.</p> <p>Single packagings are not permitted.</p> <p>COMBINATION PACKAGINGS:</p> <p>...</p> <p><i>OUTER:</i></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><i>Boxes</i></th> <th style="text-align: left;"><i>Drums</i></th> <th style="text-align: left;"><i>Jerricans</i></th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> fibreboard (4G) plywood (4D) <u>other metal (4N)</u> reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2) </td> <td style="vertical-align: top;"> aluminium (<u>1B1</u>, 1B2) fibre (1G) plastics (<u>1H1</u>, 1H2) plywood (1D) steel (<u>1A1</u>, 1A2) </td> <td style="vertical-align: top;"> plastics (<u>3H1</u>, 3H2) steel (<u>3A1</u>, 3A2) </td> </tr> </tbody> </table> <p>...</p>			<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>	fibreboard (4G) plywood (4D) <u>other metal (4N)</u> reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (<u>1A1</u> , 1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)
<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>						
fibreboard (4G) plywood (4D) <u>other metal (4N)</u> reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (<u>1A1</u> , 1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)						

506	PACKING INSTRUCTION 506	506																					
<p>The general packing requirements of Part 4, Chapter 1 of the Technical Instructions must be met.</p> <p>Single packagings are not permitted.</p> <p>...</p> <p>OUTER:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 33%;"><i>Boxes</i></th> <th style="text-align: left; width: 33%;"><i>Drums</i></th> <th style="text-align: left; width: 33%;"><i>Jerricans</i></th> </tr> </thead> <tbody> <tr> <td>fibreboard (4G)</td> <td>aluminium (1B1, 1B2)</td> <td>plastics (3H1, 3H2)</td> </tr> <tr> <td>other metal (4N)</td> <td>fibre (1G)</td> <td>steel (3A1, 3A2)</td> </tr> <tr> <td>plywood (4D)</td> <td>plastics (1H1, 1H2)</td> <td></td> </tr> <tr> <td>reconstituted wood (4F)</td> <td>plywood (1D)</td> <td></td> </tr> <tr> <td>solid plastics (4H2)</td> <td>steel (1A1, 1A2)</td> <td></td> </tr> <tr> <td>wooden (4C1, 4C2)</td> <td></td> <td></td> </tr> </tbody> </table> <p>...</p>			<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>	fibreboard (4G)	aluminium (1B1 , 1B2)	plastics (3H1 , 3H2)	other metal (4N)	fibre (1G)	steel (3A1 , 3A2)	plywood (4D)	plastics (1H1 , 1H2)		reconstituted wood (4F)	plywood (1D)		solid plastics (4H2)	steel (1A1 , 1A2)		wooden (4C1, 4C2)		
<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>																					
fibreboard (4G)	aluminium (1B1 , 1B2)	plastics (3H1 , 3H2)																					
other metal (4N)	fibre (1G)	steel (3A1 , 3A2)																					
plywood (4D)	plastics (1H1 , 1H2)																						
reconstituted wood (4F)	plywood (1D)																						
solid plastics (4H2)	steel (1A1 , 1A2)																						
wooden (4C1, 4C2)																							

509	PACKING INSTRUCTION 509	509																					
<p>The general packing requirements of Part 4, Chapter 1 of the Technical Instructions must be met.</p> <p>Single packagings are not permitted.</p> <p>COMBINATION PACKAGINGS:</p> <p>...</p> <p>OUTER:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 33%;"><i>Boxes</i></th> <th style="text-align: left; width: 33%;"><i>Drums</i></th> <th style="text-align: left; width: 33%;"><i>Jerricans</i></th> </tr> </thead> <tbody> <tr> <td>fibreboard (4G)</td> <td>aluminium (1B1, 1B2)</td> <td>plastics (3H1, 3H2)</td> </tr> <tr> <td>other metal (4N)</td> <td>fibre (1G)</td> <td>steel (3A1, 3A2)</td> </tr> <tr> <td>plywood (4D)</td> <td>plastics (1H1, 1H2)</td> <td></td> </tr> <tr> <td>reconstituted wood (4F)</td> <td>plywood (1D)</td> <td></td> </tr> <tr> <td>solid plastics (4H2)</td> <td>steel (1A1, 1A2)</td> <td></td> </tr> <tr> <td>wooden (4C1, 4C2)</td> <td></td> <td></td> </tr> </tbody> </table>			<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>	fibreboard (4G)	aluminium (1B1 , 1B2)	plastics (3H1 , 3H2)	other metal (4N)	fibre (1G)	steel (3A1 , 3A2)	plywood (4D)	plastics (1H1 , 1H2)		reconstituted wood (4F)	plywood (1D)		solid plastics (4H2)	steel (1A1 , 1A2)		wooden (4C1, 4C2)		
<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>																					
fibreboard (4G)	aluminium (1B1 , 1B2)	plastics (3H1 , 3H2)																					
other metal (4N)	fibre (1G)	steel (3A1 , 3A2)																					
plywood (4D)	plastics (1H1 , 1H2)																						
reconstituted wood (4F)	plywood (1D)																						
solid plastics (4H2)	steel (1A1 , 1A2)																						
wooden (4C1, 4C2)																							

522

PACKING INSTRUCTION 522

522

The general packing requirements of Part 4, Chapter 1 of the Technical Instructions must be met.

Single packagings are not permitted.

COMBINATION PACKAGINGS:

...

*OUTER:**Boxes*

fibreboard (4G)
other metal (4N)
 plywood (4D)
 reconstituted wood (4F)
 solid plastics (4H2)
 wooden (4C1, 4C2)

Drums

aluminium (1B1, 1B2)
 fibre (1G)
 plastics (1H1, 1H2)
 plywood (1D)
 steel (1A1, 1A2)

Jerricans

plastics (3H1, 3H2)
 steel (3A1, 3A2)

...

...

Chapter 8

CLASS 6 — TOXIC AND INFECTIOUS SUBSTANCES

610	PACKING INSTRUCTION 610	610						
<p>The general packing requirements of Part 4, Chapter 1 of the Technical Instructions must be met.</p> <p>Single packagings are not permitted.</p> <p>COMBINATION PACKAGINGS:</p> <p>...</p> <p><i>OUTER:</i></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 33%;"><i>Boxes</i></th> <th style="text-align: left; width: 33%;"><i>Drums</i></th> <th style="text-align: left; width: 33%;"><i>Jerricans</i></th> </tr> </thead> <tbody> <tr> <td> fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2) </td> <td> aluminium (<u>1B1</u>, 1B2) fibre (1G) plastics (<u>1H1</u>, 1H2) plywood (1D) steel (<u>1A1</u>, 1A2) </td> <td> plastics (<u>3H1</u>, 3H2) steel (<u>3A1</u>, 3A2) </td> </tr> </tbody> </table> <p>...</p>			<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>	fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (<u>1A1</u> , 1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)
<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>						
fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (<u>1A1</u> , 1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)						

612	PACKING INSTRUCTION 612	612						
<p>The general packing requirements of Part 4, Chapter 1 of the Technical Instructions must be met.</p> <p>COMBINATION PACKAGINGS:</p> <p>...</p> <p><i>OUTER:</i></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 33%;"><i>Boxes</i></th> <th style="text-align: left; width: 33%;"><i>Drums</i></th> <th style="text-align: left; width: 33%;"><i>Jerricans</i></th> </tr> </thead> <tbody> <tr> <td> fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2) </td> <td> aluminium (<u>1B1</u>, 1B2) fibre (1G) plastics (<u>1H1</u>, 1H2) plywood (1D) steel (<u>1A1</u>, 1A2) </td> <td> plastics (<u>3H1</u>, 3H2) steel (<u>3A1</u>, 3A2) </td> </tr> </tbody> </table> <p>...</p>			<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>	fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (<u>1A1</u> , 1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)
<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>						
fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (<u>1A1</u> , 1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)						

614

PACKING INSTRUCTION 614

614

The general packing requirements of Part 4, Chapter 1 of the Technical Instructions must be met.

Single packagings are not permitted.

COMBINATION PACKAGINGS:

...

OUTER:

Boxes

fibreboard (4G)
other metal (4N)
 plywood (4D)
 reconstituted wood (4F)
 solid plastics (4H2)
 wooden (4C1, 4C2)

Drums

aluminium (1B1, 1B2)
 fibre (1G)
 plywood (1D)
 steel (1A1, 1A2)

Jerricans

steel (3A1, 3A2)

Chapter 10

CLASS 8 — CORROSIVES

Corrigendum to UN Model Regulations (Seventeenth revised Edition) ST/SG/AC.20/1/Rev.17/Corr.1:

807	PACKING INSTRUCTION 807	807						
<p>The general packing requirements of Part 4, Chapter 1 of the Technical Instructions must be met.</p> <p>Single packagings are not permitted.</p> <p>...</p> <p><i>OUTER:</i></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 33%;"><i>Boxes</i></th> <th style="text-align: left; width: 33%;"><i>Drums</i></th> <th style="text-align: left; width: 33%;"><i>Jerricans</i></th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2) </td> <td style="vertical-align: top;"> aluminium (<u>1B1</u>, 1B2) fibre (1G) plastics (<u>1H1</u>, 1H2) plywood (1D) steel (<u>1A1</u>, 1A2) </td> <td style="vertical-align: top;"> plastics (<u>3H1</u>, 3H2) steel (<u>3A1</u>, 3A2) </td> </tr> </tbody> </table> <p>...</p>			<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>	fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (<u>1A1</u> , 1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)
<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>						
fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (<u>1A1</u> , 1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)						

See paragraph 3.6 of this report:

809	PACKING INSTRUCTION 809	809						
<p>The general packing requirements of Part 4, Chapter 1 of the Technical Instructions must be met.</p> <p>Single packagings are not permitted.</p> <p>COMBINATION PACKAGINGS:</p> <p>...</p> <p><i>OUTER:</i></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 33%;"><i>Boxes</i></th> <th style="text-align: left; width: 33%;"><i>Drums</i></th> <th style="text-align: left; width: 33%;"><i>Jerricans</i></th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2) </td> <td style="vertical-align: top;"> aluminium (<u>1B1</u>, 1B2) fibre (1G) plastics (<u>1H1</u>, 1H2) plywood (1D) steel (<u>1A1</u>, 1A2) </td> <td style="vertical-align: top;"> plastics (<u>3H1</u>, 3H2) steel (<u>3A1</u>, 3A2) </td> </tr> </tbody> </table> <p>...</p>			<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>	fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (<u>1A1</u> , 1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)
<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>						
fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (<u>1A1</u> , 1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)						

813	PACKING INSTRUCTION 813	813
The general packing requirements of Part 4, Chapter 1 of the Technical Instructions must be met.		
COMBINATION PACKAGINGS:		
...		
<i>OUTER:</i>		
<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (<u>1A1</u> , 1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)
...		

815	PACKING INSTRUCTION 815	815
The general packing requirements of Part 4, Chapter 1 of the Technical Instructions must be met.		
Single packagings are not permitted.		
COMBINATION PACKAGINGS:		
...		
<i>OUTER:</i>		
<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)	aluminium (<u>1B1</u> , 1B2) fibre (1G) plastics (<u>1H1</u> , 1H2) plywood (1D) steel (<u>1A1</u> , 1A2)	plastics (<u>3H1</u> , 3H2) steel (<u>3A1</u> , 3A2)
...		

824	PACKING INSTRUCTION 824	824
<p>The general packing requirements of Part 4, Chapter 1 of the Technical Instructions must be met. Single packagings are not permitted.</p>		
<p>COMBINATION PACKAGINGS:</p>		
<p>...</p>		
<p><i>OUTER:</i></p>		
<p><i>Boxes</i></p>	<p><i>Drums</i></p>	<p><i>Jerricans</i></p>
<p>fibreboard (4G) <u>other metal (4N)</u> plywood (4D) reconstituted wood (4F) solid plastics (4H2) wooden (4C1, 4C2)</p>	<p>aluminium (<u>1B1</u>, 1B2) fibre (1G) plastics (<u>1H1</u>, 1H2) plywood (1D) steel (<u>1A1</u>, 1A2)</p>	<p>plastics (<u>3H1</u>, 3H2) steel (<u>3A1</u>, 3A2)</p>
<p>...</p>		

...

See paragraph 3.2 of this report:

Insert new Part S-5 as follows

Part S-5

STATE'S RESPONSIBILITIES

(ADDITIONAL INFORMATION FOR PART 5 OF THE TECHNICAL INSTRUCTIONS)

Chapter 1

INSPECTIONS

1.1 GUIDANCE TO STATES ON DANGEROUS GOODS INSPECTIONS

5.1.1 Annex 18 to the Chicago Convention, *The Safe Transport of Dangerous Goods by Air*, requires States, inter alia, to establish inspection procedures with a view to achieving compliance with its dangerous goods regulations. The following guidance is offered to assist in the inspection of freight forwarders and shippers. For the purposes of this guidance and to align with the terminology used in Annex 18, "inspection" should be regarded as synonymous with "audit".

5.1.2 There are a number of aspects related to the carriage of dangerous goods by air which may be the subject of inspection.

5.1.3 For purposes of guidance in this Supplement, a State inspector must include all applicable State authorities and their designated representatives.

5.2 ORGANIZATION AND PROCEDURES

5.2.1 The aim of the inspection is to assess the suitability of the organization and procedures established by freight forwarders and shippers and the facilities provided for the preparation, offering, accepting, handling and transport of dangerous goods, taking into account the nature and scale of each operation.

5.2.2 The inspection needs to confirm that there are sufficient resources for the intended operation and that individuals with specific responsibilities have been made aware of their responsibilities. It will ensure that reference manuals and regulatory guidelines are up to date and available to staff who need to use them.

5.2.3 A form suitable for this type of inspection is at Attachment I to this chapter.

5.3 CONSIGNMENT INSPECTION

5.3.1 For a shipper, inspections consist of an on-site review or examination of a shipper's processes, conducted by the State inspector, for the purpose of independently verifying compliance with applicable dangerous goods transportation regulations. The shipping area is any location where cargo and/or small packages are packaged, built-up, sorted, stored, and ready for pick-up by a freight forwarder or operator. This location may also include a location where unit load devices (ULD) are loaded by the shipper with cargo for subsequent loading onto an aircraft. The package production area includes those locations in a shipper's facility where packages are filled and receive final closing prior to being transferred to the facility's shipping department.

5.5 STAFF TRAINING

A training inspection is to confirm that all relevant staff of the freight agent or shipper have been trained, that the training has been to the required standard and given within the required periods.

5.6 TRAINING PROGRAMMES

The Technical Instructions require initial and recurrent dangerous goods training programmes be established and maintained by or on behalf of shippers of dangerous goods, including packers and persons or organizations undertaking the responsibilities of the shipper. Freight forwarders are also subject to this requirement.

5.8 RESULTS OF INSPECTIONS

The results of a dangerous goods inspection are recorded so as to produce a record of what was seen and noted at the time. The record should be sufficiently comprehensive to identify any faults or deficiencies, since these will need to be identified in a request to the freight agent or shipper to take action to remedy them. The request should include a timescale for taking remedial action.

5.9 FREQUENCY OF INSPECTIONS

The Technical Instructions do not specify the frequency of such inspections. Shipper and freight agent inspections should be conducted in accordance with State oversight programme directives. Additional inspections may occur when analysis of inspection, incident, and enforcement data develops a trend that could lead to a possible safety or compliance issue.

ATTACHMENT I TO CHAPTER 1**DANGEROUS GOODS AUDIT FORM — SHIPPER****PRE-INSPECTION RESEARCH**

Shipper Name:
Inspection initiation date:

Office preparation: Prior to inspecting the shipper research the following:

State database: Review previous inspections associated with this shipper and record previous violation information below:

State safety risk management (SRM) database: Run “company search” or “incident summaries” for the shipper. Note any information from inspections for the same shipper from other locations beside the one you plan to inspect. Print out report and attach to this job aid for your files. Record any notable information below:

State SRM Database: Review the following additional information:

Is the shipper a holder to any exemption?

No:
Yes:

If yes, record the exemption(s) and obtain copies to review and take to the inspection:

State SRM Database: Review the following additional information:

Is the shipper station a holder approvals?

No:
Yes:

If yes, record the approval(s) and obtain copies to review and take to the inspection:

Other public information: Note any information from other sources on the shipper that may be helpful in conducting the inspection:

CONDUCT OF THE INSPECTION

Once at the shipper's location record the following information:

General company information:

Shipper
Address:
Phone number:
Fax number:
Company point of contact (name/title):

General company information: Business organization:

Individual:
Partnership:
Corporation:
If corporation, is this a branch or division?
No:
Yes:

Is it a wholly-owned subsidiary?

No:
Yes:

If the corporation is a branch or division, then record the parent corporation's information here:

Corporation headquarters:

Address:

Phone number:

Fax number:

Corporate point of contact (name/title):

Shipper profile information:

Days/hours of operation:

Operators that are offered dangerous goods for air transportation from the shipper:

Shipper profile information:

List hazard class or divisions of dangerous goods offered by the shipper:

Shipper profile information:

Exemptions utilized by this shipper:

Shipper profile information:

Approvals utilized by this shipper:

Shipper profile information:

Determine if the shipper is required to have a security plan (Technical Instructions, Part 1;5):

No:

Yes:

If yes, what dangerous good requires the shipper to have a security plan?

Shipping area/package production area:

Observation/interview/verification:

Inspect completed dangerous goods packages awaiting pick-up for air transport by an operator for:

Transport documents

Marking

Labeling

Packaging (authorized for air transport)

Classification

Does the shipper use a checklist to ensure shipments are offered in compliance with the Technical Instructions?

No:

Yes:

Notes:

If packages are being prepared, then review if workers are properly closing UN Specification packaging per the package manufacturer's closing instructions. Also verify if single packagings and the inner packagings of combination packages are permitted by the Technical Instructions for the substances being shipped. (Technical Instructions, Parts 4 and 5)

Notes:

Shipping area/package production area:

Observation/interview/verification:

Record names of all workers who you observe performing dangerous goods functions to verify training records:

Notes:

Warehouse:

Observation/interview/document review/verification:

Perform a complete physical walk-through of the shipper's warehouse/storage area during the inspection. Be on the look-out for, and question the company on, any products that are marked or labelled as dangerous goods.

Notes:

Administrative office:

Interview:

Have a knowledgeable company official describe how the shipper retains dangerous goods shipping documentation. (Technical Instructions, Part 5)

- Separate dangerous goods transport document file (folder)
- Record of rejected consignments
- Electronic records (separate file or by order)
- Transport document filed with purchase/invoice order
- Transport document filed with customer file
- Transport document filed with other shipping documentation
- Test reports and instructions for packaging
- Other

Describe method utilized and note if the shipper maintains other transport documents in different locations.

Notes:

Administrative office:

Document review/verification:

Review dangerous goods transport documents on file.

Any transport documents that are in violation of the dangerous goods regulations?

- No:
Yes:

If yes, document for possible further investigation.

List all names of individuals who certified shipments according to the transport documents for verification of training. (Technical Instructions, Part 1):

Names:

Administrative office:

Document review/verification:

Review all transport documents that indicate that a State exemption was used by the shipper. Verify that the shipper complied with the exemptions utilized. (Technical Instructions, Part 1)

List exemptions utilized:

Review all transport documents that indicate a State approval was used by the shipper. Verify that the shipper complied with the approval. (Technical Instructions, Part 1)

List approvals utilized:

Administrative office:

Document review/verification:

Review all transport documents that indicate a security plan would be required. Verify that the shipper complied with all security plan requirements. (Technical Instructions, Part 1)

Classification of dangerous goods:

Notes:

Review all dangerous goods classifications listed on transport documents against supporting documentation that the shipper utilized to classify the material.

What is the primary method utilized by the shipper to classify their dangerous goods shipments?

- Material safety data sheet
- Product information (manufacturer)
- Lab analysis
- State approval
- Other

List:

Administrative office:

Document review/verification:

Obtain roster of all employees, agents, and contractors who perform a dangerous goods function and/or transport function for the shipper. (Technical Instructions, Parts 1 and 5)

Notes:

Obtain training records that the shipper has on file. (Technical Instructions, Parts 1 and 5):

Record the following training program information:

Name of training program:

Description of training program:

Location of training material(s):

Name and address of person providing training:

Name:

Address:

Notes:

Administrative office:

Document review/verification:

Review, verify, and compare worker rosters against training records provided by the shipper.

Compare names of workers you observed performing dangerous goods functions against shipper's training records.

Notes:

Outreach

Provide State dangerous goods outreach packet or information for the safe transport of dangerous goods by air.

...

Part S-7

STATE'S RESPONSIBILITIES

...

Chapter 2

STORAGE AND LOADING

...

2.2 LOADING ON PASSENGER AIRCRAFT

...

2.2.3 Where a packing group is assigned, the dangerous goods in 2.2.2 are restricted to those in Packing Group III only.

See paragraph 5.3.1 of this report:

2.2.4 For helicopter operations, the State of the Operator may approve the carriage of dangerous goods permitted for carriage on a passenger aircraft other than those in 2.2.2 and 2.2.3. When such an approval is to be granted, States should consider the factors that may mean carriage within the cabin is required or preferable such as the size/mass of packages making it impractical to carry them as an external load, accessibility to the packages and duration of the flight. When States other than the State of the Operator have notified ICAO that they require prior approval of such operations, approval must also be obtained from the States of origin and destination, as appropriate.

Renumber subsequent paragraphs accordingly

See paragraph 3.3.3 of DGP/23-WP/3:

2.3 SEPARATION OF EXPLOSIVE SUBSTANCES AND ARTICLES

Note.— The safety of explosive substances and articles would be enhanced by transporting each kind separately, but consideration of practicability and economics preclude such an ideal. In practice, a proper balance of the interest of safety against the other relevant factors necessitates a degree of mixing in the transport of explosive substances and articles of several kinds.

2.3.1 The extent to which explosives of Class 1 may be loaded together in transport is determined by the "compatibility" of the explosives. Explosives of Class 1 are considered to be compatible if they can be transported together without significantly increasing either the probability of an accident or, for a given quantity, the magnitude of the effects of such an accident.

2.3.2 Explosives in Compatibility Groups A to K and N may be transported in accordance with the following provisions:

a) packages bearing the same Compatibility Group letter may be stowed together regardless of the division number;

b) packages bearing different Compatibility Group letters must not in general be stowed together (regardless of the division number) except in the case of Compatibility Group letters C, D, E and S as explained in 2.3.3 and 2.3.4 below.

2.3.3 Explosives in Compatibility Groups C, D, E may be stowed together.

2.3.4 Explosives in Compatibility Group S may be stowed with explosives in all compatibility groups other than A and L.

2.3.5 Explosives in Compatibility Group L must not be transported with explosives in other compatibility groups. Furthermore, explosives in Compatibility Group L may only be transported with the same type of explosives within Compatibility Group L.

2.3.6 Table S-7-1 provides guidance for the separation of packages containing explosives with different compatibility groups. An "X" at the intersection of a row and column indicates that explosives of these compatibility groups must be separated. The method of separation (e.g. the minimum distance between incompatible explosives and/or

separation of incompatible explosives with other cargo) must be approved by the competent authority, taking into account the danger of transmission of detonation between the different explosives.

Table S-7-1. Separation of explosive substances and articles

<u>Compatibility group</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>J</u>	<u>K</u>	<u>L</u>	<u>N</u>	<u>S</u>
<u>A</u>		X	X	X	X	X	X	X	X	X	X	X	X
<u>B</u>	X		X	X	X	X	X	X	X	X	X	X	
<u>C</u>	X	X				X	X	X	X	X	X	X	
<u>D</u>	X	X				X	X	X	X	X	X	X	
<u>E</u>	X	X				X	X	X	X	X	X	X	
<u>F</u>	X	X	X	X	X		X	X	X	X	X	X	
<u>G</u>	X	X	X	X	X	X		X	X	X	X	X	
<u>H</u>	X	X	X	X	X	X	X		X	X	X	X	
<u>J</u>	X	X	X	X	X	X	X	X		X	X	X	
<u>K</u>	X	X	X	X	X	X	X	X	X		X	X	
<u>L</u>	X	X	X	X	X	X	X	X	X	X	1)	X	X
<u>N</u>	X	X	X	X	X	X	X	X	X	X	X		
<u>S</u>	X										X		

1) see 2.3.5 above.

See paragraph 5.3.1 of this report:

2.4 CARRIAGE OF CARGO AIRCRAFT ONLY DANGEROUS GOODS BY HELICOPTERS IN THE CABIN

2.4.1 Packages bearing the "Cargo aircraft only" label may be carried in the cabin of a helicopter operating as a cargo aircraft, with the approval of the State of the Operator.

2.4.2 When granting such an approval, States should consider:

- a) the types and quantity of dangerous goods involved;
- b) the types of packaging used;
- c) the duration of the flight(s);
- d) the types of operation; and
- e) the ability to land quickly in the event of an emergency, etc.

...

Chapter 4

PROVISION OF INFORMATION

4.8 INFORMATION TO THE PILOT-IN-COMMAND FOR HELICOPTER OPERATIONS

4.8.1 Part 7:4.1.1 of the Technical Instructions provides that, with the approval of State of the Operator, where circumstances make it impractical to produce written or printed information or on a dedicated form, the notification to the pilot-in-command may be abbreviated or be by other means (e.g. radio communication, as part of the working flight documentation such as a journey log or operational flight plan etc). Examples of such circumstances include:

- a) when the helicopter does not land in order to pick up the dangerous goods such that it is not possible to provide written information at that location;
- b) where the helicopter is in-flight and the planned load is changed prior to being picked up without the helicopter landing;
- c) when short, repetitive flights or a series of flights from different locations are undertaken by a helicopter where it is impractical to provide separate written information for each flight;
- d) where dangerous goods are picked up from an un-manned site.

4.8.2 When granting such an approval, States should consider all of the circumstances under which the approval is being sought, the minimum information that should be provided to the pilot-in-command and the procedures that the operator would implement to ensure that the information is provided and recorded.

...

...

See paragraph 3.1 of this report:

Insert new Chapter 7 as follows:

Chapter 7

ANNEX 6 INFORMATION RELEVANT TO STATE'S DANGEROUS GOODS RESPONSIBILITIES

7.1 APPROVAL TO CARRY DANGEROUS GOODS AS CARGO — AIR OPERATORS

7.1.1 Annex 6 — *Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes*, provides that operational manuals be reviewed and approved before issuing of operations specifications by the appropriate authority of the State of the Operator.

7.1.2 Part 1;4.1.2 of the Technical Instructions provides that dangerous goods training programmes be reviewed and approved by the appropriate authority of the State of the Operator.

7.1.3 Part 7;4.2 of the Technical Instructions states that an operator must provide information in the operations manual and/or other appropriate manuals as will enable flight crews and other employees to carry out their responsibilities with regard to the transport of dangerous goods.

7.1.4 Forms suitable for the review and approval of dangerous goods manuals and training programmes and for issuing operations specification are at Attachments I to III to this chapter:

Attachment I — Dangerous Goods Certification Process: This attachment outlines the process for the review and approval of dangerous goods manuals and training programmes submitted by the operator to the proper State authority for dangerous good oversight.

Attachment II — Approval Checklists: This attachment provides detailed checklists for the use of States to assist in the review and approval process for dangerous goods manuals and training programmes.

Attachment III — Operations Specifications: This attachment provides detailed information on issuing operations specifications for dangerous goods operations for operators requesting authorization to transport dangerous goods and for operators declaring their decision to not transport dangerous goods.

7.1.5 State-issued guidance and forms suitable for the review and approval of dangerous goods training programmes and manuals, as well as for issuing operations specifications, should contain the following information:

- a) Civil Aviation Administration policy addressing internal responsibilities for receiving applications for operations specifications, reviewing dangerous goods operations specifications (including coordination with dangerous goods experts), approval, and issuance of operations specifications. Policy should outline oversight, investigation, and enforcement responsibilities as related to operations specifications. Policy should also specifically address dangerous goods manual and training programme requirements.
- b) Enumeration of detailed requirements, addressing all applicable regulations and policies, to allow dangerous goods officials to ensure their review of training programmes and manuals are comprehensive and sufficient for approval. This information should be in conjunction with high-level guidance for approving officials, distinguished between operators carrying dangerous goods as cargo and operators not carrying dangerous goods as cargo.

7.2 ADDITIONAL REQUIREMENTS FOR HELICOPTER OPERATORS

7.2.1 Annex 6 — *Operation of Aircraft, Part III — International Operations — Helicopters*, provides that operational manuals be reviewed and approved before issuing of operations specifications by the appropriate authority of the State of the Operator.

7.2.2 Due to the differences in the type of operations carried out by helicopters compared with aeroplanes, supplemental guidance and documented procedures for carriage by helicopter are required by the State of the Operator in addition to the requirements in 7.1, as compliance with full provisions of the Technical Instructions may not be practicable.

ATTACHMENT I TO CHAPTER 7

AIR OPERATOR CERTIFICATION AND APPLICATION PROCESS — GENERAL INFORMATION FOR AIR OPERATOR CERTIFICATION OF DANGEROUS GOODS TRANSPORT OPERATIONS

1. BACKGROUND

This section provides guidance concerning State operating regulations and the Technical Instructions, on dangerous goods transport. The State should ensure that operators are aware of the Technical Instructions or other dangerous goods regulations governing dangerous goods transport by air. These regulations apply to the operator's shipping and transport operations of dangerous goods. Operators should be made aware that their compliance with the dangerous goods training requirements contained in the Technical Instructions in addition to State operating regulations is mandatory. This process should be completed prior to issuing operations specifications permitting the carriage of dangerous goods. Additionally, all operators must develop and implement a system that will allow the operator to remain current with regulatory changes and updates.

Note.— Operators that choose to not carry dangerous goods as cargo must have a dangerous goods recognition programme.

2. RESPONSIBILITY FOR APPROVAL, SURVEILLANCE, AND ENFORCEMENT OF DANGEROUS GOODS PROGRAMMES

Each State has oversight responsibility for those operators they certificate to include their dangerous goods programme. The State's technical experts will evaluate operator dangerous goods manuals and training programmes for approval to ensure compliance with State operating regulations and the Technical Instructions. States will inspect operators for compliance with dangerous goods transport regulations and enforce when appropriate.

2.1 Procedures for Approval of Dangerous Goods Training

When a State receives a proposed or updated dangerous goods training programme from an operator, the State will coordinate with the appropriate dangerous goods office to evaluate the contents of the training programme. The operator will coordinate with the State as necessary to formulate a satisfactory dangerous goods training programme. Once the State determines the training to be adequate, the State may approve the dangerous goods training programme for operator implementation.

Note.— The initial approval of the training is usually done at the same time as the review and acceptance of the dangerous goods manual.

2.2 Procedures for Approval of Dangerous Goods Manuals

Consistent with State operating regulations, the dangerous goods manual is required to be submitted to the State by the operator. The State will evaluate and approve or recommend changes to ensure compliance with State regulations and the Technical Instructions. The operator should coordinate with the State as necessary to formulate a satisfactory dangerous goods manual. Once approved by the State, the operator may implement the approved operational procedures. Only the State may approve dangerous goods manuals.

3. DANGEROUS GOODS INFORMATION REQUIREMENTS FOR OPERATORS NOT ACCEPTING DANGEROUS GOODS

Operators who do not accept, handle, or store dangerous goods must provide procedures and instructions in the operator's manual as follows:

- Procedures and instructions so that all personnel responsible for accepting and handling any cargo or packaged materials receive adequate training on the recognition of items classified as dangerous goods (Adequate is defined in an operational sense to mean the demonstrated ability of required personnel to identify such items;)
- Procedures and instructions so that no packages are accepted by the operator that contain dangerous goods;
- Procedures and instructions for reporting that damaged packages found to contain, or that are suspected of containing, dangerous goods are reported in compliance with the Technical Instructions.
- Procedures and instructions to ensure that all spares and/or company material (COMAT) classified as dangerous

- goods are offered for transport by a different mode of transport (e.g. ground) and/or an operator that is authorized to transport dangerous goods; and
- Procedures and instructions to ensure that any employee, agent, or contract employee of the operator who prepares and/or offers COMAT classified as dangerous goods for shipment via any mode is fully trained as a dangerous goods shipper.

4. DANGEROUS GOODS INFORMATION REQUIREMENTS FOR OPERATORS ACCEPTING DANGEROUS GOODS

Operators who accept, handle and transport dangerous goods must provide instructions and procedures on the subjects outlined in paragraph 4.1 through 4.6 below. This information is provided as background material for the State and is not intended to supplant nor provide guidance for an operator's dangerous goods programme.

4.1 Procedures and instructions on acceptance of dangerous goods for air shipment

The operator's instructions should contain the following information:

- a) The material must be properly packaged in accordance with the packaging rules and it must be properly marked, labelled, and documented. The total quantity must be within the quantity limitations and the shipment must be accompanied by the proper shipping papers, State exemptions, or competent authority certificates, as determined by the inspection requirements for accepting shipments in the Technical Instructions, Part 7.
- b) The package may not leak or be damaged, and must be an authorized package in accordance with the applicable regulations.
- c) The package must either be authorized for carriage in passenger-carrying aircraft or labelled for cargo-only aircraft if it is not acceptable for passenger-carrying aircraft.
- d) The material must be identified by the proper shipping name, hazard class or division, identification number, and packing group (when required) in accordance with the Technical Instructions.
- e) The package must be properly marked and labelled in accordance with the Technical Instructions.
- f) Transport documents must be reviewed to ensure that all necessary information is entered, including any additional information that may be required because of the commodity shipped, or because of requirements specific to the air mode.

4.2 Storage of dangerous goods

Operators should provide specific guidance on the storage of dangerous goods. This guidance should include instructions for Class 8 (corrosive), Class 7 (radioactive), and Class 6, Division 6.1 (toxic) materials as discussed below:

- a) The storage of Class 8 (corrosive) materials next to, or in contact with, Class 4, Division 4.2 or 4.3 (flammable) solids or Class 5, Division 5.1 (oxidizing) materials must be prevented. The segregation prescribed in the Technical Instructions must be maintained for all packages containing dangerous goods that might react dangerously when stored in a position that causes or contributes to leakage.
- b) The storage of Class 7 (radioactive) materials labelled yellow II and/or yellow III will not exceed a transport index (TI) of 50 in a single storage location. These materials are stored in an area that is isolated from people and does not permit pedestrian traffic or loitering. The minimum separation distances prescribed in the Technical Instructions should be maintained between radioactive materials labelled yellow II and yellow III and packages of undeveloped film.
- c) Packages bearing a Class 6, Division 6.1 toxic label will not be stored in the same location as foodstuffs, feeds, or any edible materials intended for consumption by either humans or animals.
- d) Loading of dangerous goods. The operator should provide specific guidance for loading dangerous goods. This guidance should include:
 - 1) loading of dangerous goods in aircraft in accordance with the Technical Instructions;
 - 2) loading of radioactive materials in aircraft in accordance to ensure that limitations are in accordance with the provision of the Technical Instructions;
 - 3) loading of dangerous goods in cargo compartments or freight containers within cargo compartments in accordance with the Technical Instructions; and

- 4) a prohibition against loading packages bearing a toxic label in the same compartment that holds foodstuffs, feeds, or any edible materials intended for consumption by humans or animals unless both commodities are in separate, closed-unit load devices known as freight containers.

4.3 Written notification to pilot in command

Operators must establish procedures for notifying the pilot-in-command when dangerous goods are carried on board the aircraft in accordance with the Technical Instructions.

4.4 Reporting dangerous goods accidents and incidents

The dangerous goods information must include company procedures for reporting dangerous goods accidents and incidents, in compliance with the Technical Instructions, Part 7.

4.5 Damage to dangerous goods packages

The operator must develop procedures for handling damaged packages, radioactive contamination and substances in Class 6, Division 6.2 (infectious substances), as found in the Technical Instructions. The information should include a list of telephone numbers and addresses of organizations that can provide technical advice on clean-up techniques and precautions to minimize the possibility of injury to employees and the general public. Appropriate organizations for such advice include the following examples:

- CHEMTREC; CANUTEC
- Department of Energy;
- a State public health department;
- a State office of dangerous goods regulation; and
- centres for disease control.

4.6 Spares and/or Company Materials (COMAT)

The State should ensure that operators that use aircraft components or consumable materials (e.g. aircraft spares) classified as dangerous goods include in their manuals and provide responsible personnel training on the following information:

- Procedures and information to assist personnel (particularly maintenance, shipping, and storage personnel) to identify or recognize aircraft components and consumable materials that contain dangerous goods;
- Procedures and information on how these aircraft components or consumable materials are to be moved, stored, or handled within the facilities of the operator, or other air agency with whom they contract services to or for;
- Procedures and information for determining the proper packaging, marking, labelling, and materials compatibility, including instructions for the safe movement, storage, and handling of aircraft components and consumable materials classified as dangerous goods while they are within their facilities (including such materials as chemical oxygen generators);
- Information, guidance, and precautions on the specific hazards associated with aircraft components and consumable materials classified as dangerous goods that are to be moved, stored, or handled within their facilities.

5. EXEMPTIONS

When an operator submits a request to the State for an initial exemption, renewal or modification of their existing exemption, the State will review the application and will verify the competence and compliance history of the certificated operator in addition to ensuring compliance with State operating regulations and the Technical Instructions.

6. VIOLATIONS AND INVESTIGATIONS

When a State becomes aware of a suspected dangerous goods violation, the State shall notify the appropriate authority and ensure that inspections and investigations are conducted in accordance with State oversight programmes for dangerous goods.

7. SOURCES OF INFORMATION

The following regulations and publications pertaining to the safe transportation of dangerous goods should be made available:

7.1 National Sources

National sources of information pertaining to the safe transportation of dangerous goods should be as follows:

- State operating regulations applicable to dangerous goods operations which define the duties and responsibilities for preparing and implementing procedural manuals and training programmes dealing with the transportation of dangerous goods by air.

- the Technical Instructions
- State dangerous goods programme websites (www.state.xxx)

7.2 Technical Instructions for the Safe Transport of Dangerous Goods by Air

The Technical Instructions amplify the basic provisions of Annex 18 to the Convention on International Civil Aviation, and contain detailed instructions necessary for the safe international transport of dangerous goods by air. The Instructions are issued in a two-year edition, becoming effective on 1 January of every odd year.

Table S-7-2. Applicable Regulatory References

<i>Subjects</i>	<i>Regulatory references</i>
*‡ Dangerous goods and classifications	Technical Instructions, Part 2
‡ Transport document and certification requirements	Technical Instructions, Part 5, Chapter 4
*‡ Packaging, marking, and labeling	Technical Instructions, Part 5, Chapters 2 and 3
* Exceptions to the regulations	Technical Instructions, Part 1, Chapter 2 Technical Instructions, Part 8
Written notification to the pilot-in-command and emergency response information	Technical Instructions, Part 7, Chapter 4
* Reporting dangerous goods incidents/discrepancies	Technical Instructions, Part 7, Chapter 4
Loading, unloading, and handling	Technical Instructions, Part 7, Chapter 2
* Operators that do not accept or transport dangerous goods or dangerous goods must provide training in these subjects.	
‡ In accordance with the Technical Instructions	

ATTACHMENT II TO CHAPTER 7

DANGEROUS GOODS MANUAL AND TRAINING PROGRAMME CHECKLISTS

Dangerous Goods Operations Manuals and Training Programme Approval

Purpose:

The purpose of this document is to provide the objectives and tasks a State should conduct during the review and approval of an operator's authority to transport dangerous goods.

Scope:

A State should inspect and monitor the dangerous goods transported by the operator within its governing authority. The inspection process should verify that an operator's dangerous goods procedures and practices adhere to State operating regulations and the Technical Instructions. This includes a method of validating an operator's authority to transport dangerous goods as cargo.

The attached documents include checklists for a State to reference when reviewing an operator's dangerous goods programme. While these checklists cannot replace the necessary dangerous goods oversight experience and training of State inspector personnel, States may wish to incorporate these checklists into their oversight programmes to ensure a consistent approach to approving dangerous goods manuals and training programmes. The checklists may also be of assistance to operators developing their dangerous goods manual and training programmes.

Attachment A: Dangerous Goods Manual Approval Checklist

Attachment B: Dangerous Goods Training Programme Approval Checklist

**Attachment A
Dangerous Goods Manual – Approval Checklist**

Name of the operator	Certificate number:	State inspector:	
Certificate type	<input type="checkbox"/> Carrying dangerous goods as cargo <input type="checkbox"/> Not carrying dangerous goods as cargo	<input type="checkbox"/> Passenger <input type="checkbox"/> All Cargo	
Reviewed by:	Date:	Recommend approval by:	Approved <input type="checkbox"/> YES <input type="checkbox"/> NO
Objective:			
This checklist is designed to assist the State in determining if the operator's dangerous goods manual contains the information required by the governing state's authority to transport dangerous goods as cargo.			
Tasks:			
To meet the objective, the State should accomplish the following tasks:			
1. Identify the operator's representative who has overall responsibility for the dangerous goods manual.			
2. Conduct review of the dangerous goods manual.			
3. Coordinate any corrections or additions as needed with the operator's representative and applicable State inspector.			
Questions:			
To meet the objective, the State Inspector should answer the following questions:			
Does the dangerous goods manual contain procedures and information regarding acceptance? Technical Instructions 7;1.3		<input type="checkbox"/> Yes <input type="checkbox"/> No, explain <input type="checkbox"/> N/A	
Does the dangerous goods manual contain procedures and information regarding rejection? Technical Instructions 7;4.5		<input type="checkbox"/> Yes <input type="checkbox"/> No, explain <input type="checkbox"/> N/A	
Does the dangerous goods manual contain procedures and information regarding handling? Technical Instructions 7;2		<input type="checkbox"/> Yes <input type="checkbox"/> No, explain <input type="checkbox"/> N/A	
Does the dangerous goods manual contain procedures and information regarding storage prior to transport?		<input type="checkbox"/> Yes <input type="checkbox"/> No, explain <input type="checkbox"/> N/A	
Does the dangerous goods manual contain procedures and information regarding packaging of spares and company material classified as dangerous goods? Technical Instructions 1;2.2		<input type="checkbox"/> Yes <input type="checkbox"/> No, explain <input type="checkbox"/> N/A	
Does the dangerous goods manual contain procedures and information regarding loading? Technical Instructions 7;2.4		<input type="checkbox"/> Yes <input type="checkbox"/> No, explain <input type="checkbox"/> N/A	
Does the dangerous goods manual contain procedures sufficient to assist persons in identifying packages that are marked or labelled as dangerous goods? Technical Instructions 7;4.2		<input type="checkbox"/> Yes <input type="checkbox"/> No, explain <input type="checkbox"/> N/A	

Does the dangerous goods manual contain procedures sufficient to assist persons in identifying packages that may contain undeclared dangerous goods? Technical Instructions 7;5 and 7;6	<input type="checkbox"/> Yes <input type="checkbox"/> No, explain <input type="checkbox"/> N/A
Does the dangerous goods manual contain procedures sufficient to assist persons in rejecting dangerous goods that do not conform to dangerous goods regulations? Technical Instructions 7;1	<input type="checkbox"/> Yes <input type="checkbox"/> No, explain <input type="checkbox"/> N/A
Does the dangerous goods manual contain procedures sufficient to assist persons complying with accident and incident reporting requirements? Technical Instructions 7;4.4, 7;4.6 and 7;4.7	<input type="checkbox"/> Yes <input type="checkbox"/> No, explain <input type="checkbox"/> N/A
Does the dangerous goods manual contain procedures sufficient to assist persons complying with undeclared or misdeclared reporting requirements? Technical Instructions 7;4.5 and 7;4.6	<input type="checkbox"/> Yes <input type="checkbox"/> No, explain <input type="checkbox"/> N/A
Does the dangerous goods manual identify if the air carrier is authorized by the State of the operator to carry dangerous goods as cargo?	<input type="checkbox"/> Yes <input type="checkbox"/> No, explain <input type="checkbox"/> N/A
Does the dangerous goods manual contain procedures for determining if packages containing dangerous goods are properly offered and accepted? Technical Instructions 7;1	<input type="checkbox"/> Yes <input type="checkbox"/> No, explain <input type="checkbox"/> N/A
Does the dangerous goods manual contain procedures for determining if packages containing dangerous goods are properly handled, stored packaged, loaded and carried onboard an aircraft? Technical Instructions 7;2	<input type="checkbox"/> Yes <input type="checkbox"/> No, explain <input type="checkbox"/> N/A
Does the dangerous goods manual contain requirements for information to the pilot-in-command? Technical Instructions 7;4.1	<input type="checkbox"/> Yes <input type="checkbox"/> No, explain <input type="checkbox"/> N/A
Additional Information:	
Does the operator conduct any excepted operations? Technical Instructions 1;1.1.5.1	<input type="checkbox"/> Yes, explain <input type="checkbox"/> No
Does the operator have any State approved exemptions or approvals?	<input type="checkbox"/> Yes, explain <input type="checkbox"/> No
Is the operator required to have a dangerous goods security plan? If so, does the dangerous goods manual contain sufficient procedures to transport high consequence dangerous goods? Technical Instructions 1;5.3 <i>Note.— If another State authority has responsibilities for operator security plans under Annex 17, approval should be coordinated prior to the authorizing of transport of high consequence dangerous goods.</i>	<input type="checkbox"/> Yes, explain <input type="checkbox"/> No

Attachment B
Dangerous Goods Training Programme — Approval Checklist

Name of the air carrier	Certification number:	State inspector:			
Certificate type:	<input type="checkbox"/> Carrying dangerous goods as cargo <input type="checkbox"/> Not Carrying dangerous goods as cargo	<input type="checkbox"/> Passenger <input type="checkbox"/> All Cargo			
Reviewed by:	Date:	Approved by:	Approved <input type="checkbox"/> YES <input type="checkbox"/> NO		
Objective:					
This checklist is designed to assist the State in determining if the operator's dangerous goods training programme contains the information required in the Technical Instructions.					
Tasks:					
To meet the objective the State should accomplish the following tasks:					
1. Identify the operator's representative that has overall responsibility for the dangerous goods training programme.					
2. Review the content of the dangerous goods training programme.					
3. Coordinate any corrections or additions as needed with the operator's representative and applicable State inspector.					
Questions:					
To meet the objective, the State should determine whether the dangerous goods training programme contains the following elements:					
General Philosophy		Applicable reference from the Technical Instructions	Yes	No	NA
1. Purpose of dangerous goods training programme		1;4, Introductory Note, 1;4.1			
2. Applicable regulatory materials		Forward;1;1, 1;2			
4. Use of the Technical Instructions		1;1.1			
6. Definitions used in air transportation of dangerous goods		1;3.1			
7. General transportation requirements		1;2			
8. Transport by aircraft		1;1.1.1			
9. Training requirements and record keeping		1;4			
10. Dangerous goods security		1;5			
Limitations		Applicable Citations	Yes	No	N/A
1. Dangerous goods forbidden on aircraft		1;2.1			
2. Exempt dangerous goods		1;1.1.5, 1;2.2, 1;2.4, 1;2.5			
4. Dangerous goods carried by passengers or crew		8;1.1			
General Requirements For Shippers		Applicable Citations	Yes	No	N/A
1. Shippers specific responsibilities and compliance to regulations		1;1.1, 1;1.2, 5;1.4			
2. Identify and recognize dangerous goods COMAT		1;4.2			
3. Specific dangerous goods COMAT exceptions		1;2.2			
List of Dangerous goods		Applicable Citations	Yes	No	N/A
1. Purpose and use of the dangerous goods table		3;2			
2. Proper shipping names		2;0.3, 3;1.2			
3. Hazard class (definition)		2;0.1			
4. UN/ID Numbers		2;0.3			
5. Packing group		2;0.2.4			
General Packing Requirements		Applicable Citations	Yes	No	N/A
1. Shippers responsibilities		5;1.4			
2. General packing requirements		5;1.1			
3. Packing instructions and assignments		4;2			
4. Excepted quantity exceptions		3;5.1			
5. Limited quantity exceptions		3;4.1			
Labeling and Marking		Applicable Citations	Yes	No	N/A
1. Markings required on packages containing dangerous goods		5;2			
2. Labels required on packages containing dangerous goods		5;3			
Dangerous goods Transport Documents and Other Relevant Documentation		Applicable Citations	Yes	No	N/A
1. Shipper's certification requirements for dangerous goods		5;4.1.6			
2. Transport document requirements		5;4, 7;4.10			
3. Description of dangerous goods required on transport		5;4.1.4, 5;4.2			

ATTACHMENT III TO CHAPTER 7

OPERATIONS SPECIFICATIONS

OPSPEC #xxxx — TRANSPORT OF DANGEROUS GOODS

A. Authorization

Operations specification (OpSpec) XXXX is an optional authorization applicable to operators conducting operations under State operating regulations that choose to comply with the applicable regulations to carry dangerous goods as cargo.

B. Regulatory Requirements

State operating regulations require the following:

- 1) All Operators conducting operations under State operating regulations, must indicate in their operations specification that they carry dangerous goods as cargo or do not carry dangerous goods as cargo. OpSpec XXXX is issued for those operators that carry dangerous goods. OpSpec XXXX is issued for those operators that do not carry dangerous goods as cargo and it must contain a statement to that effect.
- 2) Operators must comply with the manual requirements outlined in State operating regulations and with the dangerous goods training programme requirements in the Technical Instructions.

C. Operators that choose to carry dangerous goods as cargo

- 1) An operator conducting operations under State operating regulations that choose to carry dangerous goods as cargo (including spares and/or company materials (COMAT) classified as dangerous goods) must provide the State a general outline of the aspects of the proposed training programme as presented in Table 1-4 of the Technical Instructions. Operations manuals with the procedures and information to be used to assist personnel in the acceptance, handling, loading and transport of dangerous goods must also be submitted.
- 2) Provided the following conditions are met, the operator may be authorized to accept, handle, and transport dangerous goods.
 - a) Packages containing dangerous goods are properly offered and accepted in compliance with the Technical Instructions, Part 7, Chapter 1;
 - b) Packages containing dangerous goods are properly handled, stored, packaged, loaded, and carried onboard the operator's aircraft in compliance with the Technical Instructions, Part 7, Chapter 2;
 - c) The requirements for the notification to the pilot-in-command are as required in the Technical Instructions, Part 7, Chapter 4; and
 - d) Aircraft replacement parts, spares, consumable materials or other items regulated by the Technical Instructions are properly handled, packaged, and transported.
- 3) Additionally, for each crewmember and person performing or directly supervising a dangerous goods function involving items for transport on an aircraft, the operator's manual required by State operating regulations shall contain those procedures and information necessary to assist the crewmember or other person in identifying packages marked or labelled as containing dangerous goods or show signs of containing undeclared dangerous goods.
- 4) The manual required by State operating regulations, shall contain the operator's procedures for rejecting packages that do not conform to the dangerous goods regulations in the Technical Instructions, or that appear to contain undeclared dangerous goods.

- 5) The manual required by State operating regulations, shall contain the operator's procedures for complying with the dangerous goods accident and incident reporting requirements The Technical Instructions and the reporting of undeclared and misdeclared dangerous goods.
- 6) The operator is responsible for maintaining the records of initial and recurrent dangerous goods training within the three preceding years of all direct employees, contractors, and subcontractors directly supervising or performing an applicable dangerous goods function as described in the Technical Instructions. The training records may be electronic or paper and must be made available to the State upon request at the location the trained person performs or directly supervises the covered dangerous goods function.
- 7) Dangerous goods training records must contain the following:
 - individual's name;
 - most recent training completion date;
 - a description, copy, or reference to training material;
 - name and address of organization providing training; and
 - evidence that a test was satisfactorily completed.

D. Operators that choose to not carry dangerous goods as cargo

- 1) OpSpec XXXX will state that the operator conducting operations under State operating regulations is not authorized and shall not carry dangerous goods as cargo, satisfying the OpSpec regulatory requirement for a do not carry dangerous goods as cargo operator. The operator is prohibited from accepting, handling, or transporting dangerous goods to include spares and/or COMAT. Do Not Carry dangerous goods as cargo operators must provide to the State a general outline of the aspects of the proposed training programme as presented in Table 1-5 of the Technical Instructions.
- 2) Consistent with this prohibition, for each crewmember and person performing or directly supervising the acceptance, handling, or loading of items for transport on an aircraft, the operator's manual required by State operating regulations shall contain those procedures and information necessary to assist the crewmember or other person in identifying packages that are marked or labelled as containing dangerous goods or that show signs of containing undeclared dangerous goods.
- 3) Dangerous goods training records must contain the following:
 - individual's name;
 - most recent training completion date;
 - a description, copy, or reference to training material;
 - name and address of organization providing training; and
 - evidence that a test was satisfactorily completed.
- 4) The manual required by State operating regulations, shall contain the operator's procedures for rejecting packages offered for transport that contain dangerous goods or that appear to contain undeclared dangerous goods.

E. Issuing Operations Specifications

- 1) Upon approval of operations manuals and training programmes, the State will issue the appropriate operation's specifications to carry dangerous goods as Cargo or to not carry dangerous goods as cargo in accordance with State operating regulations.

EXTRACT FROM ANNEX 6, PART I**APPENDIX 6. AIR OPERATOR CERTIFICATE (AOC)**

(Note. — See Chapter 4, 4.2.1.5 and 4.2.1.6)

1. Purpose and scope

1.1 The AOC and its associated model specific operations specifications shall contain the minimum information required in paragraphs 2 and 3 respectively, in a standardized format.

1.2 The air operator certificate and its associated operations specifications shall define the operations for which an operator is authorized.

Note.— Attachment E, paragraph 3.2.2, contains additional information that may be listed in the operations specifications associated with the air operator certificate.

2. AOC template

Note.— Chapter 6, 6.1.2, requires a certified true copy of the AOC to be carried aboard.

AIR OPERATOR CERTIFICATE		
1	STATE OF THE OPERATOR²	1
	ISSUING AUTHORITY³	
AOC # ⁴ : Expiry date ⁵ :	OPERATOR NAME⁶ Dba trading name ⁷ : Operator address ⁸ : Telephone ⁹ : Fax: E-mail:	OPERATIONAL POINTS OF CONTACT¹⁰ Contact details, at which operational management can be contacted without undue delay, are listed in _____ ¹¹ .
This certificate certifies that _____ ¹² is authorized to perform commercial air operations, as defined in the attached operations specifications, in accordance with the operations manual and the _____ ¹³ .		
Date of issue ¹⁴ :	Name and signature ¹⁵ : Title:	

Notes.—

1. For use of the State of the Operator.
2. Replace by the name of the State of the Operator.
3. Replace by the identification of the issuing authority of the State of the Operator.
4. Unique AOC number, as issued by the State of the Operator.
5. Date after which the AOC ceases to be valid (dd-mm-yyyy).
6. Replace by the operator's registered name.
7. Operator's trading name, if different. Insert "dba" before the trading name (for "doing business as").
8. Operator's principal place of business address.
9. Operator's principal place of business telephone and fax details, including the country code. E-mail to be provided if available.

10. *The contact details include the telephone and fax numbers, including the country code, and the e-mail address (if available) at which operational management can be contacted without undue delay for issues related to flight operations, airworthiness, flight and cabin crew competency, dangerous goods and other matters, as appropriate.*
11. *Insert the controlled document, carried on board, in which the contact details are listed, with the appropriate paragraph or page reference, e.g.: "Contact details are listed in the operations manual, Gen/Basic, Chapter 1, 1.1" or "... are listed in the operations specifications, page 1" or "... are listed in an attachment to this document".*
12. *Operator's registered name.*
13. *Insertion of reference to the appropriate civil aviation regulations.*
14. *Issuance date of the AOC (dd-mm-yyyy).*
15. *Title, name and signature of the authority representative. In addition, an official stamp may be applied on the AOC.*

3. Operations specifications for each aircraft model

Note.— Chapter 6, 6.1.2, requires a copy of the operations specifications of this section to be carried aboard.

3.1 For each aircraft model in the operator's fleet, identified by aircraft make, model and series, the following list of authorizations, conditions and limitations shall be included: issuing authority contact details, operator name and AOC number, date of issue and signature of the authority representative, aircraft model, types and area of operations, special limitations and authorizations.

Note.— If authorizations and limitations are identical for two or more models, these models may be grouped in a single list.

3.2 The operations specifications layout referred to in Chapter 4, 4.2.1.6, shall be as follows:

Note.— The MEL constitutes an integral part of the operations manual.

OPERATIONS SPECIFICATIONS (subject to the approved conditions in the operations manual)				
ISSUING AUTHORITY CONTACT DETAILS¹				
Telephone: _____		Fax: _____		E-mail: _____
AOC# ² : _____		Operator name ³ : _____		Date ⁴ : _____ Signature: _____
Dba trading name: _____				
Aircraft model ⁵ : _____				
Types of operation: Commercial air transportation <input type="checkbox"/> Passengers <input type="checkbox"/> Cargo <input type="checkbox"/> Other ⁶ : _____				
Area(s) of operation ⁷ : _____				
Special limitations ⁸ : _____				
SPECIAL AUTHORIZATIONS	YES	NO	SPECIFIC APPROVALS ⁹	REMARKS
Dangerous goods	<input type="checkbox"/>	<input type="checkbox"/>		
Low visibility operations				
Approach and landing	<input type="checkbox"/>	<input type="checkbox"/>	CAT ¹⁰ : _____ RVR: _____ m DH: _____ ft	
Take-off	<input type="checkbox"/>	<input type="checkbox"/>	RVR ¹¹ : _____ m	
RVSM ¹² <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>		
ETOPS ¹³ <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>	Maximum diversion time ¹⁴ : _____ minutes	
Navigation specifications for PBN operations ¹⁵	<input type="checkbox"/>	<input type="checkbox"/>		16
Continuing airworthiness	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	17	
Other ¹⁸	<input type="checkbox"/>	<input type="checkbox"/>		

Notes.—

1. Telephone and fax contact details of the authority, including the country code. E-mail to be provided if available.
2. Insert the associated AOC number.
3. Insert the operator's registered name and the operator's trading name, if different. Insert "dba" before the trading name (for "doing business as").
4. Issuance date of the operations specifications (dd-mm-yyyy) and signature of the authority representative.

5. *Insert the Commercial Aviation Safety Team (CAST)/ICAO designation of the aircraft make, model and series, or master series, if a series has been designated (e.g. Boeing-737-3K2 or Boeing-777-232). The CAST/ICAO taxonomy is available at: <http://www.intlaviationstandards.org/>.*
 6. *Other type of transportation to be specified (e.g. emergency medical service).*
 7. *List the geographical area(s) of authorized operation (by geographical coordinates or specific routes, flight information region or national or regional boundaries).*
 8. *List the applicable special limitations (e.g. VFR only, day only).*
 9. *List in this column the most permissive criteria for each approval or the approval type (with appropriate criteria).*
 10. *Insert the applicable precision approach category (CAT I, II, IIIA, IIIB or IIIC). Insert the minimum RVR in metres and decision height in feet. One line is used per listed approach category.*
 11. *Insert the approved minimum take-off RVR in metres. One line per approval may be used if different approvals are granted.*
 12. *“Not applicable (N/A)” box may be checked only if the aircraft maximum ceiling is below FL 290.*
 13. *Extended range operations (ETOPS) currently applies only to twin-engined aircraft. Therefore the “Not applicable (N/A)” box may be checked if the aircraft model has more than 2 engines. Should the concept be extended to 3 or 4-engined aircraft in the future, the “Yes” or “No” checkbox will be required to be checked.*
 14. *The threshold distance may also be listed (in NM), as well as the engine type.*
 15. *Performance-based navigation (PBN): one line is used for each PBN specification authorization (e.g. RNAV 10, RNAV 1, RNP 4), with appropriate limitations or conditions listed in the “Specific Approvals” and/or “Remarks” columns.*
 16. *Limitations, conditions and regulatory basis for operational approval associated with the performance-based navigation specifications (e.g. GNSS, DME/DME/IRU). Information on performance-based navigation, and guidance concerning the implementation and operational approval process, are contained in the Performance-based Navigation (PBN) Manual (Doc 9613).*
 17. *Insert the name of the person/organization responsible for ensuring that the continuing airworthiness of the aircraft is maintained and the regulation that requires the work, i.e. within the AOC regulation or a specific approval (e.g. EC2042/2003, Part M, Subpart G).*
 18. *Other authorizations or data can be entered here, using one line (or one multi-line block) per authorization (e.g. special approach authorization, MNPS, approved navigation performance).*
-

ATTACHMENT A
PROPOSED AMENDMENTS TO TABLE S-3-1

DGP/23 supported a proposal to group Table S-3-1 entries together by class followed by the applicable packing instructions of that class (i.e. Class 1 would be grouped together, Class 2 would be grouped together, and Classes 3 to 9 would be grouped together). For the purpose of this report, all amendments proposed to Parts 3 and 4 are presented in the same structure as the current edition of the Supplement. Subject to adoption by Council, the 2013-2014 Edition of the Supplement to Technical Instructions will be structured as agreed by DGP/23 (see paragraph 3.4 of this report).

Table S-3-1. Supplementary Dangerous Goods List - DRAFT

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
A												
≠ Ammonia, anhydrous	1005	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Ammonia solution, relative density less than 0.880 at 15°C in water, with more than 50% ammonia	3318	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Arsine	2188	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
B												
≠ Boron trichloride	1741	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Boron trifluoride	1008	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Bromine chloride	2901	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
C												
≠ Carbon monoxide, compressed	1016	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	

Chapter 2

S-3-2-1

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
≠ Carbonyl fluoride	2417	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Carbonyl sulphide	2204	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
+ Chemical under pressure, corrosive, n.o.s.*	3503	2.2	8	Gas non-flammable & Corrosive		A1 A187		E0	FORBIDDEN		218	100 kg
+ Chemical under pressure, flammable, n.o.s.*	3501	2.1		Gas flammable		A1 A187		E0	FORBIDDEN		218	75 kg
+ Chemical under pressure, flammable, corrosive, n.o.s.*	3505	2.1	8	Gas flammable & Corrosive		A1 A187		E0	FORBIDDEN		218	75 kg
+ Chemical under pressure, flammable, toxic, n.o.s.*	3504	2.1	6.1	Gas flammable & Toxic		A1 A187		E0	FORBIDDEN		218	75 kg
+ Chemical under pressure, toxic, n.o.s.*	3502	2.2	6.1	Gas non-flammable & Toxic		A1 A187		E0	FORBIDDEN		218	100 kg
≠ Chlorine	1017	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Chlorine pentafluoride	2548	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Chlorine trifluoride	1749	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Chloropicrin and methyl bromide mixture with more than 2% chloropicrin	1581	2.3		Gas toxic	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
≠ Chloropicrin and methyl chloride mixture	1582	2.3		Gas toxic	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Chlorosilanes, flammable, corrosive, n.o.s.	2985	3	8	Liquid flammable & Corrosive			II	E0	377	1 L	377	5 L
≠ Chlorosilanes, toxic, corrosive, n.o.s.*	3361	6.1	8	Toxic & Corrosive			II	E0	681	1 L	681	30 L
≠ Chlorosilanes, toxic, corrosive, flammable, n.o.s.*	3362	6.1	3 8	Toxic & Liquid flammable & Corrosive			II	E0	681	1 L	681	30 L
≠ Coal gas, compressed †	1023	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Compressed gas, toxic, n.o.s.*	1955	2.3		Gas toxic	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Compressed gas, toxic, corrosive, n.o.s.*	3304	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Compressed gas, toxic, flammable, n.o.s.*	1953	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Compressed gas, toxic, flammable, corrosive, n.o.s.*	3305	2.3	2.1 8	Gas toxic & Gas flammable & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Compressed gas, toxic, oxidizing, n.o.s.*	3303	2.3	5.1	Gas toxic & Oxidizer	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
≠ Compressed gas, toxic, oxidizing, corrosive, n.o.s.*	3306	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Cyanogen	1026	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Cyanogen chloride, stabilized	1589	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
D												
≠ Diborane	1911	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Dichlorosilane	2189	2.3	2.1 8	Gas toxic & Gas flammable & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Dimethyldichlorosilane	1162	3	8	Liquid flammable & Corrosive			II	E0	377	1 L	377	5 L
≠ Dimethyl disulphide	2381	3	6.1	Liquid flammable & Toxic		A223	II	E0	353	5 L	364	60 L
≠ Dinitrogen tetroxide	1067	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
E												
≠ Ethylene oxide	1040	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3 US 4	A2 A131			See 210		See 210	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
# Ethylene oxide and carbon dioxide mixture, with more than 87% ethylene oxide	3300	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3 US 4	A2			See 210		See 210	
# Ethyltrichlorosilane	1196	3	8	Liquid flammable & Corrosive			II	E0	377	1 L	377	5 L
F												
# Fluorine, compressed	1045	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
G												
# Gas cartridges (toxic & corrosive) without a release device, non-refillable	2037	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
# Gas cartridges (toxic, flammable & corrosive) without a release device, non-refillable	2037	2.3	2.1 8	Gas toxic & Gas flammable & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
# Gas cartridges (toxic & flammable) without a release device, non-refillable	2037	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
# Gas cartridges (toxic, oxidizing & corrosive) without a release device, non-refillable	2037	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
# Gas cartridges (toxic & oxidizing) without a release device, non-refillable	2037	2.3	5.1	Gas toxic & Oxidizer	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
≠ Gas cartridges (toxic) without a release device, non-refillable	2037	2.3		Gas toxic	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Germane	2192	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
H												
≠ Hexaethyl tetraphosphate and compressed gas mixture	1612	2.3		Gas toxic	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Hexafluoroacetone	2420	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Hydrogen bromide, anhydrous	1048	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Hydrogen chloride, anhydrous	1050	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Hydrogen in a metal hydride storage system	3468	2.1		Gas flammable		A1 A143 A176		E0	FORBIDDEN		214	100 kg
≠ Hydrogen in a metal hydride storage system contained in equipment	3468	2.1		Gas flammable		A1 A143 A176		E0	FORBIDDEN		214	100 kg
≠ Hydrogen in a metal hydride storage system packed with equipment	3468	2.1		Gas flammable		A1 A143 A176		E0	FORBIDDEN		214	100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
≠ Hydrogen iodide, anhydrous	2197	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Hydrogen selenide, anhydrous	2202	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Hydrogen sulphide	1053	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
I												
≠ Insecticide gas, toxic, n.o.s.*	1967	2.3		Gas toxic	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Insecticide gas, toxic, flammable, n.o.s.*	3355	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Iodine monochloride, solid	1792	8		Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A1	II	E0	815	(15 kg)	863	50 kg
L												
≠ Liquefied gas, toxic, n.o.s.*	3162	2.3		Gas toxic	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Liquefied gas, toxic, corrosive, n.o.s.*	3308	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
≠ Liquefied gas, toxic, flammable, n.o.s.*	3160	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Liquefied gas, toxic, flammable, corrosive, n.o.s.*	3309	2.3	2.1 8	Gas toxic & Gas flammable & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Liquefied gas, toxic, oxidizing, n.o.s.*	3307	2.3	5.1	Gas toxic & Oxidizer	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Liquefied gas, toxic, oxidizing, corrosive, n.o.s.*	3310	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
M												
≠ Methyl bromide with not more than 2% chloropicrin	1062	2.3		Gas toxic	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		207	(25 kg)
≠ Methylchlorosilane	2534	2.3	2.1 8	Gas toxic & Gas flammable & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Methyl mercaptan	1064	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Methyltrichlorosilane	1250	3	8	Liquid flammable & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3		II	E0	377	1 L	377	5 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
N												
≠ Nitric oxide and dinitrogen tetroxide mixture	1975	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Nitric oxide and nitrogen dioxide mixture	1975	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Nitric oxide, compressed	1660	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Nitrogen dioxide	1067	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Nitrogen trioxide	2421	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Nitroglycerin solution in alcohol with more than 1% but not more than 5% nitroglycerin	3064	3		Liquid flammable	BE 3	A188	II	E0	FORBIDDEN		371	5 L
≠ Nitrosyl chloride	1069	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
O												
≠ Oil gas, compressed †	1071	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A1		E0	See 210		200	25 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
# Oxygen difluoride, compressed	2190	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
P												
# Perchloryl fluoride	3083	2.3	5.1	Gas toxic & Oxidizer	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
# Phosgene	1076	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
# Phosphine	2199	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
# Phosphorus pentafluoride	2198	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
R												
# Receptacles, small, containing gas (toxic & corrosive) without a release device, non-refillable	2037	2.3	2.1 8	Gas toxic & Gas flammable & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
# Receptacles, small, containing gas (toxic, flammable & corrosive) without a release device, non-refillable	2037	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
# Receptacles, small, containing gas (toxic & flammable) without a release device, non-refillable	2037	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
≠ Receptacles, small, containing gas (toxic, oxidizing & corrosive) without a release device, non-refillable	2037	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Receptacles, small, containing gas (toxic & oxidizing) without a release device, non-refillable	2037	2.3	5.1	Gas toxic & Oxidizer	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Receptacles, small, containing gas (toxic) without a release device, non-refillable	2037	2.3		Gas toxic	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
S												
≠ Selenium hexafluoride	2194	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Silicon tetrafluoride	1859	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Stibine	2676	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Sulphur dioxide	1079	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Sulphuryl fluoride	2191	2.3		Gas toxic	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
T												
≠ Tellurium hexafluoride	2195	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Toxic by inhalation liquid, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3382	6.1		Toxic			I		FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3381	6.1		Toxic			I		FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, corrosive, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3389	6.1	8	Toxic & Corrosive			I		FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, corrosive, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3390	6.1	8	Toxic & Corrosive			I		FORBIDDEN		FORBIDDEN	
>												
>												
≠ Toxic by inhalation liquid, flammable, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3383	6.1	3	Toxic & Liquid flammable			I		FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, flammable, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3384	6.1	3	Toxic & Liquid flammable			I		FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, flammable, corrosive, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3488	6.1	3 8	Toxic & Liquid flammable & Corrosive					FORBIDDEN		FORBIDDEN	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
≠ Toxic by inhalation liquid, flammable, corrosive, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3489	6.1	3 8	Toxic & Liquid flammable & Corrosive					FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, oxidizing, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3387	6.1	5.1	Toxic & Oxidizer			I		FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, oxidizing, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3388	6.1	5.1	Toxic & Oxidizer			I		FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, water-reactive, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3386	6.1	4.3	Toxic & Danger if wet			I		FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, water-reactive, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3385	6.1	4.3	Toxic & Danger if wet			I		FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, water-reactive, flammable, n.o.s.* with an LC ₅₀ lower than or equal to 200 ml/m ³ and saturated vapour concentration greater than or equal to 500 LC ₅₀	3490	6.1	3 4.3	Toxic & Liquid flammable & Danger if wet					FORBIDDEN		FORBIDDEN	
≠ Toxic by inhalation liquid, water-reactive, flammable, n.o.s.* with an LC ₅₀ lower than or equal to 1 000 ml/m ³ and saturated vapour concentration greater than or equal to 10 LC ₅₀	3491	6.1	3 4.3	Toxic & Liquid flammable & Danger if wet					FORBIDDEN		FORBIDDEN	
≠ Trifluoroacetyl chloride	3057	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
≠ Trifluorochloroethylene, stabilized	1082	2.3	2.1	Gas toxic & Gas flammable	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
# Trimethylchlorosilane	1298	3	8	Liquid flammable & Corrosive			II	E0	377	1 L	377	5 L
# Tungsten hexafluoride	2196	2.3	8	Gas toxic & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3	A2			See 210		See 210	
V												
# Vinyltrichlorosilane	1305	3	8	Liquid flammable & Corrosive	AU 1 CA 7 IR 3 NL 1 US 3		II	E0	377	1 L	377	5 L

البند ٤ من جدول الأعمال: وضع توصيات لإجراء تعديلات على إرشادات الطوارئ لمعالجة الأحداث الناتجة عن البضائع الخطرة على متن الطائرات (Doc 9481) لإدراجها في طبعة ٢٠١٣-٢٠١٤

١-٤ مشروع التعديلات على إرشادات الطوارئ لمعالجة الأحداث الناتجة عن البضائع الخطرة على متن الطائرة (DGP/23-WP/78) لإدراجها في طبعة ٢٠١٣-٢٠١٤

١-١-٤ استعرض الاجتماع التعديلات على إرشادات الطوارئ لمعالجة الأحداث الناتجة عن البضائع الخطرة على متن الطائرة بحيث تراعى فيها المقترحات التي وافق عليها الاجتماعان العاشر والحادي عشر للفريق العامل التابع لفريق الخبراء.

٢-١-٤ وأُتفق في الاجتماع على إدخال تعديل لإدراج حرف تصنيف جديد في الجدول ١-٤ ينطبق على الوقائع المتصلة ببطاريات الليثيوم. ويوصي حرف التصنيف الجديد "Z" بأن تُستخدم المياه لإطفاء الحرائق المتصلة ببطاريات الليثيوم وأن ينظر طاقم القيادة في إمكانية الهبوط بالطائرة فوراً. وأعرب عن بعض الشواغل في الاجتماع الحادي عشر للفريق العامل التابع لفريق الخبراء مفادها أن الإشارة إلى استخدام المياه تعني ضمناً ضرورة وجود جهاز لإطفاء الحرائق بالمياه. غير أنه أوضح بأن الأمر قد لا يكون كذلك؛ نظراً للحاجة إلى وجود المياه باعتبارها عاملاً للتبريد، وليست بالضرورة وسيلة لإطفاء الحرائق.

٣-١-٤ وأُتفق على التعديلات.

٢-٤ التوصية

١-٢-٤ في ضوء المناقشة سالفة الذكر، أصدر الاجتماع التوصية التالية:

التوصية ١/٤ - تعديل إرشادات الطوارئ لمعالجة الأحداث الناتجة عن البضائع الخطرة على متن الطائرة (Doc 9481)

القواعد والتوصيات الدولية

تعديل إرشادات الطوارئ لمعالجة الأحداث الناتجة عن البضائع الخطرة على متن الطائرة (Doc 9481) كما جاء في مرفق تقرير عن هذا البند من جدول الأعمال.

APPENDIX

PROPOSED AMENDMENTS TO THE *EMERGENCY RESPONSE GUIDANCE FOR AIRCRAFT INCIDENTS INVOLVING DANGEROUS GOODS*

Section 1

GENERAL INFORMATION

...

1.5 ACCESSIBILITY OF DANGEROUS GOODS

Dangerous goods bearing the “cargo aircraft only” label are required to be accessible in flight, except for:

See paragraph 3.4.2 of DGP/23-WP/3:

~~1) flammable liquids (Class 3) of Packing Group III, without subsidiary risks;~~

See paragraph 2.8.9 of this report (the amendments proposed in paragraph 2.8.9 are to Part 7;2.4.1.2 of the Technical Instructions. The Secretariat replicated those amendments here as this paragraph mirrors the provisions in 7;2.4.1.2 of the Technical Instructions):

1) flammable liquids (Class 3), Packing Group III, other than those with a subsidiary risk of Class 8;

2) toxic ~~and infectious~~ substances (~~Class-Division 6.1~~) with no subsidiary risk other than Class 3;

3) infectious substances (Division 6.2);

~~34~~) radioactive materials (Class 7); and

~~45~~) miscellaneous dangerous goods (Class 9).

Other dangerous goods (those which do not bear “cargo aircraft only” labels) are not required to be accessible.

Part 7, Chapter 2 of the Technical Instructions sets out the full requirements on the accessibility of dangerous goods on cargo aircraft.

...

See paragraphs 3.4.1 and 3.4.3 of DGP/23-WP/3:

Table 4-1. Aircraft Emergency Response Drills						
1. COMPLETE APPROPRIATE AIRCRAFT EMERGENCY PROCEDURES. 2. CONSIDER LANDING AS SOON AS PRACTICABLE. 3. USE DRILL FROM THE CHART BELOW.						
DRILL NO.	INHERENT RISK	RISK TO AIRCRAFT	RISK TO OCCUPANTS	SPILL OR LEAK PROCEDURE	FIREFIGHTING PROCEDURE	ADDITIONAL CONSIDERATIONS
...						
6	Toxic*, may be fatal if inhaled, ingested, or absorbed by skin	Contamination with toxic* liquid or solid				
...						
9	No general inherent risk	As indicated by the drill letter	As indicated by the drill letter	Use 100% oxygen; establish and maintain maximum ventilation if "A" drill letter	All agents according to availability; <u>Use water if available on "Z" drill letter</u> no water on "W" drill letter	None <u>if "Z" drill letter, consider landing immediately.</u>
DRILL LETTER	ADDITIONAL RISK	DRILL LETTER	ADDITIONAL RISK			
A	ANAESTHETIC	N	NOXIOUS			
C	CORROSIVE	P	TOXIC* (POISON)			
E	EXPLOSIVE	S	SPONTANEOUSLY COMBUSTIBLE OR PYROPHORIC			
F	FLAMMABLE	W	IF WET GIVES OFF POISONOUS <u>TOXIC*</u> OR FLAMMABLE GAS			
H	HIGHLY IGNITABLE	X	OXIDIZER			
i	IRRITANT / TEAR PRODUCING	Y	DEPENDING ON THE TYPE OF INFECTIOUS SUBSTANCE, THE APPROPRIATE NATIONAL AUTHORITY MAY BE REQUIRED TO QUARANTINE INDIVIDUALS, ANIMALS, CARGO AND THE AIRCRAFT			
L	OTHER RISK LOW OR NONE					
M	MAGNETIC	<u>Z</u>	<u>AIRCRAFT CARGO FIRE SUPPRESSION SYSTEM MAY NOT EXTINGUISH OR CONTAIN THE FIRE. CONSIDER LANDING IMMEDIATELY.</u>			
* Toxic has the same meaning as poison.						

Amend Tables 4-2 and 4-3 as indicated:

<i>UN No.</i>	<i>Drill Code</i>	<i>Proper shipping name</i>
3480	9F 9FZ	Lithium ion batteries
3481	9F 9FZ	Lithium ion batteries contained in equipment
3481	9F 9FZ	Lithium ion batteries packed with equipment
3090	9F 9FZ	Lithium metal batteries
3091	9F 9FZ	Lithium metal batteries contained in equipment
3091	9F 9FZ	Lithium metal batteries packed with equipment
<u>3500</u>	<u>2L</u>	<u>Chemical under pressure, n.o.s.*</u>
<u>3501</u>	<u>10L</u>	<u>Chemical under pressure, flammable, n.o.s.*</u>
<u>3502</u>	<u>2P</u>	<u>Chemical under pressure, toxic, n.o.s.*</u>
<u>3503</u>	<u>2C</u>	<u>Chemical under pressure, corrosive, n.o.s.*</u>
<u>3504</u>	<u>10P</u>	<u>Chemical under pressure, flammable, toxic, n.o.s.*</u>
<u>3505</u>	<u>10C</u>	<u>Chemical under pressure, flammable, corrosive, n.o.s.*</u>

البند ٥ من جدول الأعمال: حل مسألة بنود العمل غير المتكررة التي حددتها لجنة الملاحه الجوية أو فريق الخبراء حيثما أمكن ذلك وهي:

١-٥ استعراض الأحكام الخاصة بنقل بطاريات الليثيوم

١-١-٥ بطاريات ثانوية عاملة بأيونات الليثيوم (DGP/23-WP/34)

١-١-١-٥ طلب إلى الاجتماع أن ينظر في إضافة بعض الأحكام إلى التعليمات الفنية بغية تسهيل نقل بطاريات الليثيوم كبيرة الحجم القابلة للشحن في السيارات الهجينة والكهربائية. وحاليا تنقل هذه البطاريات بعد الحصول على موافقة الدولة. وقد شرح للخبراء بأنه للوفاء بالشروط التي تنطبق على استخدام تلك البطاريات في السيارات، فإنها تخضع إلى اختبارات شاملة ومكثفة، بالإضافة إلى الاختبارات التي تنص عليها الفقرة الفرعية ٣٨-٣ من دليل الأمم المتحدة للاختبارات والمعايير. وقد احتج بأن الخلايا والبطاريات التي تأتي بنتيجة إيجابية بعد خوضها للاختبارات سيكون نقلها مأمونا.

٢-١-١-٥ ولم يقترح تعديل محدد بهذا الخصوص لكن طلب من فريق الخبراء أن يدعم فكرة استعراض الأحكام في أثناء فترة السنتين المقبلة. وقد شرح بعض الأعضاء بأنهم قد خبروا العمل بهذه البطاريات، وشعروا بأنها قد أعدت للوفاء بمستويات سلامة عالية. فهي تنقل حاليا بطريقة مأمونة بعد الحصول على الموافقة، واعتبر بعض الأعضاء أن إدراج مثل هذه الشروط للحصول على الموافقات في بند خاص سيؤدي إلى توفير نهج مشترك. ولكن شعر الفريق بأنه قد يكون من الضروري النظر في إدراج شروط إضافية مثل تعيين الحدود القصوى للحجم وأخرى خاصة بالاختبار.

٣-١-١-٥ وقد أدرك فريق الخبراء أهمية الاستفادة في فترة السنتين المقبلة للنظر في هذه المسألة.

٢-١-٥ بطاريات الليثيوم الاحتياطية (DGP/23-WP/39)

١-٢-١-٥ سحبت هذه الورقة لأنه تمت معالجة الموضوع وتغطيته في الوثيقة (DGP/23-WP/43) (انظر الفقرة ٣-١-٥).

٣-١-٥ الأجهزة الالكترونية المحمولة التي تحتوي على خلايا

أو بطاريات الليثيوم والبطاريات الاحتياطية التي ينقلها

الركاب أو الطاقم (DGP/23-WP/43)

١-٣-١-٥ اقترح تعديل أحكام الركاب الخاصة بالأجهزة الالكترونية المحمولة التي تتضمن بطاريات الليثيوم. ويقضي التعديل ما يلي:

(أ) اعتماد تدابير للحول دون التشغيل غير المقصود.

(ب) إقفال التجهيزات قبل تسجيلها كأمتعة مسجلة.

واقترح بأن عدم اعتماد مثل هذه الإجراءات قد يؤدي إلى زيادة درجة الحرارة بشكل خطير في أثناء الرحلة.

٢-٣-١-٥ واتفق على إضافة بند التدابير الواجب اتخاذها للحول دون التشغيل غير المقصود. ولم يؤيد الخبراء إضافة شرط خاص بإقفال تلك التجهيزات، نظرا لأنه من غير الممكن أن يتم دوما إقفالها.

٣-٣-١-٥ لقد اقترح أيضا أنه ينبغي إدراج كلمة "المعدن" مع عبارة "الليثيوم أو خلايا أيونات الليثيوم أو البطاريات"، واتفق على هذا الاقتراح.

٤-٣-١-٥ ويتضمن التعديل المقترح أيضا نصا لتصنيف المقصد من عبارة " للاستخدام الشخصي" وهو ينص على أنه يمكن نقل بطاريتين احتياطيتين لكل جهاز إلكتروني محمول في الأمتعة اليدوية. ولكن أقر مقدم الاقتراح بأن قد تحتاج بعض التجهيزات إلى أكثر من بطاريتين، واقترح أن يقتصر الحد المسموح به لعدد البطاريات الاحتياطية على العدد الأدنى من البطاريات اللازمة لتشغيل كل نوع من أنواع التجهيزات الإلكترونية المحمولة. ولم يتفق على النص الجديد إذ أقر المجتمعون بأن هذا الإجراء قد يؤدي إلى فرض قيود غير ضرورية. وفي أثناء المناقشات، أقر بأن اختلافات مازالت قائمة بخصوص تفسير ينص عليه الجزء الأخير من الفقرة ٨-١-١-٢ (ق)، لمعرفة ما إذا كان السماح بنقل البطاريتين الاحتياطيتين ينطبق على بطاريات أيونات الليثيوم التي تتخطى معدل المائة وات بالساعة والتي تقبل فقط بعد الحصول على موافقة المشغل الجوي، أو إذا كان ذلك الجزء الأخير ينطبق على جميع بطاريات الليثيوم الاحتياطية التي ينقلها الركاب أو الطاقم، واتفق على أن الحد المفروض ينطبق فقط على بطاريات أيونات الليثيوم التي تتخطى المائة وات بالساعة. وقد لوحظ أن هيكل الشرط المنصوص عليه في الطبعة ٢٠٠٧-٢٠٠٨ قد أوضح ذلك، وان الشكل الجدولي الجديد المقدم في الورقة DGP/23-WP/11 سيوضح أيضا هذا الموضوع.

٤-١-٥ القسم الثاني بطاريات الليثيوم - شروط التحميل (DGP/23-WP/59)

١-٤-١-٥ أُرجئت مناقشة ورقة العمل هذه إلى حين انعقاد مجموعة عمل خاصة ببطاريات الليثيوم والتي تم إنشاؤها في أثناء مناقشة ورقة العمل DGP/23-WP/72 (انظر الفقرة ٥-١-٧).

٥-١-٥ تمييز ووضع اللاصقات على الأغلفة الحاوية لبطاريات الليثيوم (DGP/23-WP/69)

١-٥-١-٥ لوحظ أن تطبيق شرط وضع اللاصقات على بطاريات الليثيوم لم يتم تحديده بالنسبة للأغلفة الحاوية في القسم الثاني من تعليمات التغليف رقم ٩٦٥ إلى رقم ٩٧٠ وقد اقترح إدراج فقرة جديدة لكي تتضمن تعليمات التغليف تلك، واتفق على هذا الاقتراح.

٦-١-٥ بطاريات الليثيوم في البريد (DGP/23-WP/71)

الإضافة رقم ١ والإضافة رقم ٢ بورقة العمل (DGP/23-WP/71)

١-٦-١-٥ أعلم الاجتماع بتعديل اعتمده اتحاد البريد العالمي (UPU) باتفاقيته للسماح بإرسال جهاز يتضمن كحد أقصى أربع خلايا من خلايا الليثيوم أو بطاريتين اثنتين أو أقل من بطاريات الليثيوم في طرود البريد الدولي. وطلب إلى فريق الخبراء أن ينسق تعليماته الفنية مع التعديلات التي أدخلت على اتفاقية اتحاد البريد الدولي. وقد كان تعديل الاتفاقية ناتجا عن رغبة أعربت عنها إدارات البريد كي تتمكن من تقديم خدمات للشركات التي تسعى إلى استخدام البريد لتسليم المنتجات مباشرة إلى المستهلكين. وفي هذا الإطار، رغبت إدارات البريد في أن تتمكن من أن تتنافس على مستوى متكافئ مع مشغلي خدمات الشحن السريع بالنسبة إلى نقل بطاريات الليثيوم.

٢-٦-١-٥ وقد أبلغ الفريق بأنه عند إعداد هذا التعديل، اتبع نهج شديد التحفظ ولكن عملي في التطبيق. فلا يمكن نقل سوى ٤ خلايا أو بطاريتين كحد أقصى، وذلك فقط عندما يحتويها جهاز معين. ويعني ذلك أن سلطات البريد كانت تسعى إلى نقل بنود الاستهلاك اليومي، مثل أجهزة الهاتف المحمول و(أجهزة التصوير) والكاميرات الرقمية وأجهزة الكمبيوتر الصغيرة المحمولة (لاب توب) وكاميرات الفيديو، وأجهزة التخاطب اللاسلكي، والألعاب التي يتم التحكم بها لاسلكيا. وقد أعدت مواد تدريبية ودليل تشغيلي للمشغلين الذين يعينهم اتحاد البريد الدولي وقدمت هذه المواد خلال الاجتماع. ويخطط لإعداد مواد تدريبية إضافية ستجهز في المستقبل القريب بما في ذلك دورات تدريبية إلكترونية بواسطة

شبكة الانترنت أعدها متخصصون يستهدفون بها الموظفين في البريد. وستتوافر مواد التدريب على الموقع الداخلي الخاص بالاتحاد الدولي للبريد بأربع لغات.

٣-٦-١-٥ وقد لوحظت زيادة في عدد بطاريات الليثيوم في المنتجات والتي تم الكشف عنها في البريد الدولي والمحلي نتيجة لزيادة شعبية التسوق والمناقصات على شبكة الانترنت. وقيل إن السماح بإرسال عدد محدد من بطاريات الليثيوم مع التقييد بنقلها وفقا لتلك التعليمات سيؤدي إلى تخفيض عدد بطاريات الليثيوم التي ترسل بالبريد بشكل غير مأمون.

٤-٦-١-٥ وأحيط الاجتماع بمسائل تشغيلية قد تمت معالجتها وهي تتضمن ما يلي:

(أ) قد أعد اتحاد البريد العالمي والأليات قائمة بمسؤولين عن التنسيق في أكثر من مائة دولة كمصدر يعتمد عليه لمعالجة المسائل التي تطرأ نتيجة للكشف بالأشعة السينية. وتجري الأعمال حاليا لتوسيع هذه القائمة. وسيتم تقاسم هذه الأخيرة مع سلطات الطيران المدني.

(ب) ويتم حاليا استعراض اتفاقية اتحاد البريد العالمي واللوائح ذات الصلة المرتبطة بالرسائل والطرود البريدية لمعالجة الشواغل التي تنشأ عن بعض القوانين التي تجعل من غير القانوني لشخص أن يفتح بريد غير موجه له. وقد تم الاعتراف بأن ذلك قد يعرقل الاستجابة لحالات الطوارئ في حالة حدوث واقعة.

(ج) ويتم العمل على إعداد اللاصقات والنصوص لوضعها على الطرود أو حاويات البريد للإشارة إلى أنها تحتوي على بطاريات الليثيوم.

(د) وقد أوصت مادتان أدخلتا على اتفاقية وتنظيمات اتحاد البريد الالكتروني العالمي باعتماد نظام للإبلاغ عن الوقائع والحوادث، حيث أن الإبلاغ إلى سلطات البريد المعنية بات أمرا موصى به.

وقد شرح أن "مجلس عمليات البريد" سيستعرض هذه المسائل التشغيلية والفنية في أثناء اجتماعات الخريف المقبلة.

٥-٦-١-٥ وقدم اقتراح في الإضافة بورقة العمل لتعديل التعليمات الفنية للسماح بنقل كمية صغيرة من بطاريات الليثيوم في البريد. وينبغي أن ينطبق هذا البند على البطاريات المستثناة المحددة في القسم الثاني من تعليمات التغليف رقم ٩٦٧ و ٩٧٠. وقد لوحظ أنه لو تم الاتفاق على هذا التعديل، فينبغي إدراج في النص إشارة إلى أن هذا البند ينطبق فقط على البطاريات الموضوعة في التجهيزات.

٦-٦-١-٥ وشعر بعض الأعضاء بأنه طالما يتم الامتثال للتعليمات الفنية فما من سبب منطقي لعدم قبول الاقتراح، على أساس أن تلك البطاريات هي مستثناة حاليا من غالبية الأحكام الواردة في التعليمات. وقد وافق الأعضاء على ما أعرب عنه اتحاد البريد الالكتروني العالمي بأن السماح بنقل عدد قليل من بطاريات الليثيوم يمكن أن يؤدي إلى تقليل عدد البطاريات الليثيوم التي ترسل في البريد بشكل غير مأمون. فيسمح حاليا بإرسال بعض البضائع الخطرة في البريد بواسطة النقل الجوي، لذلك قد يبدو مبررا توسيع نطاق هذا الإذن، طالما يتم الامتثال للتعليمات الفنية.

٧-٦-١-٥ واعتبر آخرون أنه لا يمكنهم دعم هذا الاقتراح. وتضمنت الشواغل الخاصة باعتماد هذا الاقتراح ما يلي:

(أ) مازالت مسألة النقل المأمون لبطاريات الليثيوم قيد البحث ضمن فريق الخبراء وشعر بعض الخبراء بأن ما لم تسوى هذه المسائل، فممن السابق لأوانه النظر في هذا الاقتراح.

(ب) وناقش فريق الخبراء الصعوبات المرتبطة بمراقبة الشاحن نظرا لعدد الشاحنين المرتفع جدا في بعض الدول (انظر الفقرة ٣-٢). وقد يؤدي إضافة مزيد من المستهلكين الاعتياديين وعاملي البريد إلى المعادلة إلى تفاقم هذه المشكلة.

(ج) وقد تصعب إمكانية الاطلاع على البريد في حالة حدوث واقعة في عدد من الدول بسبب القوانين التي تجعل من غير المشروع لشخص أن يفتح بريداً غير موجه له. وعلى نحو مماثل، قد تمنع عمليات التفتيش.

(د) وقد يكون من الصعب، إن لم يكن مستحيلا، ضمان حصول جميع الأشخاص المشاركين في عملية نقل هذه البضائع على التدريب. فيقتضي الأمر تدريب هؤلاء الأشخاص، بل وينبغي أيضا توفير التدريب المتكرر لهم وتطبيق نظام للاحتفاظ بسجلات التدريب. وفي شتى أنحاء العالم، ثمة ملايين من العاملين في مجال البريد في مختلف أنواع مكاتب البريد، مثل تلك الموجودة في المحلات التجارية، وقد يجهل المستهلكون الاعتياديون وجود مثل هذه الشروط أصلا، ناهيك عن إمامهم بشروط التدريب.

(هـ) وإن احتمال قيام المستهلكين بوضع الطرود في صناديق البريد قد يلحق ضررا ببطاريات الليثيوم، وكان هذا الموضوع يشكل شاعلا من شواغل السلامة.

(و) لم يتم تحديد في التعليمات دور عاملي البريد في إطار سلسلة إمدادات البضائع الخطرة. فكان دورهم تارة شبيها بوكلاء الشحن وطورا كدور مشغل جوي.

(ز) وما من آلية قائمة لضمان أن اتحاد البريد كان قد تلقى ووزع التعديلات المدخلة على التنظيمات في الوقت المناسب وبطريقة تتسم بالكفاءة.

(ح) وقد لا يكون عاملو البريد مدركين للتعديلات التي دخلت في إطار تنظيمات الدولة والمشغل الجوي وقد تنص بعضها على منع إرسال البضائع الخطرة في البريد الجوي.

(ط) وفي حين أنه بالفعل كان يسمح بإرسال بالبريد بعض العينات المأخوذة من المرضى والمواد المعدية والمشعة، فقد طبقت هذه الإجراءات بشكل محدود للغاية. ففي العديد من الحالات، كانت الجهات المرسلة لهذه المواد هي جهات متخصصة مدركة تماما للمخاطر المرتبطة بعملية النقل تلك.

٨-٦-١-٥ ولم يتم الاتفاق على هذا التعديل. ولكن اعتبر فريق الخبراء أنه يجب مواصلة المناقشات مع الاتحاد البريدي بهدف تحسين التواصل بين سلطات البريد وسلطات الطيران المدني. وقد تم الإقرار بأن التنسيق حول هذه المسألة كان شبه معدوم وكان يمكن أن يؤدي التواصل إلى نتائج أفضل بالنسبة للآراء المقدمة من فريق خبراء البضائع الخطرة.

٩-٦-١-٥ وقد أثار قرار عدم اعتماد الاقتراح مسائل قانونية مرتبطة بالاختلاف الحالي بين أحكام اتفاقية اتحاد البريدي العالمي والتعليمات الفنية. فمن جهة، اتبع الاتحاد البريدي الإجراءات المرعية وقد حصل على دعم من الدول المتعاقدة لديه لتعديل اتفائيته التي ترعى شؤون البريد. ومن جهة أخرى، فإن فريق خبراء المعني بالبضائع الخطرة قد كلف، من خلال الإيكاو، بضمان توافر نظام أمن لنقل البضائع الخطرة جوا. ولذلك، فإن عملية نقل أكياس البريد التي تتضمن البضائع الخطرة جوا تتدرج ضمن صلاحيات الإيكاو.

١٠-٦-١-٥ وأعرب الاتحاد البريدي عن شواغله بسبب التضارب بين اتفاقية الاتحاد والتعليمات الفنية. وقد تفهم الاتحاد قلق فريق الخبراء، وتعهد ببذل قصارى جهده لمعالجة المسائل التي أثيرت. وتم التماس الدعم من الأعضاء في فريق الخبراء لإعداد كتاب مشترك صادر عن الاتحاد البريدي والإيكاو وموجه إلى الدول الأعضاء في المنظمتين، يتم فيه شرح هذه المسائل. وقد تعاطف فريق الخبراء مع شواغل الاتحاد البريدي واتفق على إنشاء مجموعة عمل مشتركة مع الأعضاء في الجهة المعنية في الاتحاد البريدي، وستتم الأعمال بالمراسلة وستواصل في أثناء اجتماع مجموعة العمل المعنية ببطاريات الليثيوم المتوقع عقدها في سنة ٢٠١٢.

المسائل الأخرى التي أثيرت في أثناء مناقشة اقتراح الاتحاد البريدي العالمي

١١-٦-١-٥ أثار اقتراح الاتحاد البريدي العالمي مناقشات أخرى مرتبطة بنقل البضائع الخطرة في البريد:

(أ) تساءل بعض الأعضاء عما إذا كان يمكن لبطاريات الليثيوم المرسلة وفقا للقسم الثاني من تعليمات التغليف أن تكون خاضعة لأحكام حظر النقل بالبريد. فاعتبر بعض الأعضاء أنه بما أن الإرساليات المذكورة في القسم الثاني لا تخضع لشروط التعليمات الفنية الأخرى فهذا يعني أنه يمكن لتلك البطاريات أن تنقل في البريد. ولكن لم يكن هذا هو المقصد من أحكام القسم الثاني. وقد تم تكدير الفريق بالاقتراح الذي اتفق عليه في هذا الاجتماع (انظر الفقرة ٢-٥-١، والفقرة ٣-١-٢-٣ من ورقة العمل DGP/23-WP/3 باللغة الانجليزية فقط) لتوضيح أن البطاريات المرسلة وفقا للقسم الثاني من تعليمات التغليف ٩٦٥-٩٧٠ لم تستثن من النقل المحظور في البريد الجوي.

(ب) واعتبر بعض الأعضاء في الفريق أنه ينبغي اعتماد جزء من الاقتراح الذي تقدم به الاتحاد البريدي العالمي والذي أزيلت بموجبة الإشارة إلى اتفاقية الاتحاد. وأخطر الأمين الفريق بأن الاتحاد البريدي العالمي قد تقدم بهذا الاقتراح بالتزامن مع فرض الاستثناءات على بطاريات الليثيوم المنقولة في البريد، ولا يمكن أن يعتمد بصورة منفصلة. وينبغي النظر في حذف هذه الإشارة من خلال اقتراح منفصل.

(ج) وإن الاختلافات في التفسير الذي قدمه الفريق للعلاقة القانونية بين الإيكاو والاتحاد البريدي العالمي بالإضافة إلى معرفة ما إذا كانت إرساليات الليثيوم المذكورة في القسم الثاني تخضع لأحكام حظر نقلها في البريد قد أظهرت جليا بأنه من الضروري طلب مزيد من التوضيح. وستعالج هذه المسألة في إطار اجتماع مجموعة العمل المعنية ببطاريات الليثيوم المزمع عقده في أوائل سنة ٢٠١٢.

(د) وقدم أحد أعضاء الفريق نتائج دراسة أجرتها مؤخرا سلطات البريد الوطنية في دولته بشأن التدابير التي كانت تنفذ للحيلولة دون نقل البضائع الخطرة في البريد. واستخدمت عينة عشوائية لأكثر من ٣٠ ٠٠٠ طرد ورسالة، أفضت إلى تقدير أن نسبة تتراوح ما بين ١ إلى ٣ في المائة من جميع الطرود التي ترسل بالبريد في تلك الدولة بصورة روتينية تتضمن بضائع خطيرة. وكانت غالبية هذه البنود تحتوي على الإيروسولات والذخائر وتضمنت أيضا الغازات المضغوطة والعمود وقداحات السجائر وبطاريات الليثيوم وطلاء الأظافر والأسيتون والطلاء والسوائل المسببة للتآكل. وأبلغ أعضاء آخرون بنتائج مماثلة لدراسات أجريت في دولهم.

ولقد لوحظ أنه على الرغم من أن البضائع الخطرة تمثل نسبة مئوية صغيرة من الطرود والرسالة التي تنقل جوا يوميا، فإن إمكانية حدوث وقائع ذات آثار مفاجئة بسبب إرسال بضائع خطيرة محظورة بالبريد تتطلب تنفيذ جميع التدابير الاحتياطية المعقولة للتخفيف من حدة الآثار المتوافرة حاليا. وتسعى هذه الدولة حاليا إلى بذل الجهود لتحقيق هذا الهدف. وقد اقترح أن تقوم الدول الأخرى باعتماد نفس النهج.

القواعد القياسية الخاصة بطاريات الليثيوم (ورقة العمل DGP/23-WP/72 المنقحة
ورقة العمل DGP/23-WP/11)

٧-١-٥

١-٧-١-٥ أقتراح تعديل شروط بطاريات الليثيوم على أساس الشواغل التي تم الإعراب عنها، مفادها أن الشروط الحالية غير كافية. وقبل تقديم الاقتراح إلى فريق الخبراء، فقد أبلغ ممثلون عن المركز الفني لهيئة الطيران الاتحادية فريق الخبراء بنتائج الاختبار المرتبط ببطاريات الليثيوم. وتم عرض النتائج التالية:

(أ) أشارت اختبارات الانتشار على النطاق الصغير والمتوسط إلى أن التصاعد الحراري (thermal runaway) في خلية واحدة يمكن أن يؤدي إلى إحداث نسبة كافية من الحرارة كي تحدث تصاعدا حراريا في الخلايا المتاخمة. ويمكن أن يطال هذا الانتشار جميع الخلايا ضمن الطرد المرسل فيطال الطرود المتاخمة.

(ب) وقد تخدم مادة الهالون ١٣٠١ أسنة النيران المشتعلة والمنبعثة من خلايا أيونات الليثيوم في إطار التصاعد الحراري، ولكنها قد لا تتصدى للانتشار من خلية إلى أخرى. وفي حالة خلايا معدن الليثيوم فلا تؤثر مادة الهالون من ١٣٠١ عليها، بل تؤدي فقط إلى السيطرة على انتشار النيران إلى المواد المتاخمة.

(ج) وأجريت اختبارات للتغير الذي قد يصيب الطرد بهدف التحقق من المواد البديلة منخفضة التكلفة التي يمكن أن توقف انتشار التصاعد الحراري إذا ما تمت خسارة خلية واحدة. ولم تتجح أي من الاختبارات إلى الآن. وقد أظهرت أن الأغلفة الحاوية لمولدات الأوكسجين تتجح في احتواء الحريق الناتج عن أيونات الليثيوم ولكنها لم تتجح في احتواء الحريق الناتج عن معدن الليثيوم.

(د) واتضح من نموذج المخاطر الخاص بحوادث نشوب الحرائق في طائرات البضائع نتيجة للحرائق في مقصورات الشحن أنه يمكن أن تقع حوالي ٦ حوادث (٦,٢ بالتحديد) بسبب الحرائق في مقصورات الشحن في السنوات العشر المقبلة، وترتبط ٤,٥ من تلك الحوادث مرتبطة ببطاريات الليثيوم، وقد اعتمد هذا النموذج على حوادث طائرات الشحن في الولايات المتحدة التي تعزى إلى نشوب حريق في مقصورات الشحن من الفئة (هـ). ويتوقع حدوث زيادة كبيرة في إرساليات بطاريات الليثيوم جوا خلال السنوات العشر المقبلة.

٢-٧-١-٥ وأعرب فريق الخبراء عن تقديره للمعلومات المتوفرة، ووصف نائب المدير المسؤول عن التوحيد القياسي والبنية الأساسية في مجال السلامة بإدارة الملاحة الجوية للايكوا هذه الأعمال بأنها تسمح بتحديد المخاطر في إطار نظام إدارة السلامة وهي الأدوات الأساسية لمعالجة مسائل السلامة في الطيران. ولكن ثمة شواغل محيطة بهذه الدراسة. فشعر البعض أن البيانات والافتراضات التي اعتمد عليها نموذج المخاطر تقوم على معلومات غير دقيقة، لأن نسبة البطاريات التي ترسل حاليا جوا هي نسبة صغيرة. وأبلغ ممثل عن صانعي البطاريات بأن بطاريات معدن الليثيوم تتمتع بعمر تشغيلي طويل، ولذلك فهي تنقل بأعداد كبيرة بحرا. وقد أبلغ أن إحصائيات الصناعة متوفرة ويمكن تقديمها إلى الفريق. وشعر آخرون بأنه على الرغم من أن الأرقام الفعلية قد لا تكون دقيقة، ولكن مما لا شك فيه، أن ثمة زيادة كبيرة نسبيا في عدد البطاريات المرسل جوا، وأنه من المحتمل أن يستمر هذا الاتجاه.

٣-٧-١-٥ وبعد العرض، تم تقديم الاقتراح. وقد شرح أن المقصد الأساسي من هذا الاقتراح هو إزالة الاستثناءات القائمة حاليا بالنسبة للبطاريات الصغيرة من أيونات الليثيوم وبطاريات معدن الليثيوم. فلم تستعرض إمكانية إزالة هذه الاستثناءات لبطاريات الليثيوم، التي تحتويها التجهيزات أو المغلفة داخلها، لأنه بدا أن الحماية موفرة من خلال التجهيزات. وعلى أساس التعليقات التي تم تلقيها من الصناعة ومن أعضاء آخرين في فريق الخبراء، قد عدل الاقتراح للسماح بنقل إرساليات أقل خطرا. وتقر هذه الاستثناءات الخاصة بالبطاريات الصغيرة جدا بالدور الملحوظ للتجارة الإلكترونية في إطار صناعة بطاريات الليثيوم وصناعة الأجهزة الإلكترونية المحمولة، مع إزالة الكثير من المخاطر.

٤-٧-١-٥ اعتمدت مسوغات هذا الاقتراح على الاستنتاجات التي تقدم بها المركز الفني لهيئة الطيران الاتحادية (انظر الفقرة ١-٧-٥)، بالإضافة إلى الحجج العديدة المقدمة في الاجتماعات السابقة لفريق الخبراء واجتماعات مجموعات العمل. والنتائج تتضمن ما يلي:

(أ) منح استثناءات من جميع التنظيمات الكاملة الخاصة بطاريات الليثيوم لا تبدو خطوة مبررة نظراً لأنها اعتبرت ضرورية للعديد من السلع الأخرى الشائعة والأقل خطورة، مثل الطلاء والجليد الجاف.

(ب) وبموجب الاستثناءات، لن يقدم للطيار المعلومات التي يمكن أن يحصل عليها في إطار التنظيمات كاملة، مثل المعلومات الخاصة بكمية بطاريات الليثيوم ومكانها وفتتها على متن الطائرة. وان الخصائص الفريدة لأي حريق ينتج عن بطارية الليثيوم قد تؤثر على قرارات الطيار في حالة الطوارئ، لو كان يملك تلك المعلومات. فإن المتصددين لحالات الطوارئ سيكونون في موقع أفضل يسمح لهم بمواجهة الطوارئ بعد هبوط الطائرة إذا كان لديهم مثل هذه المعلومات.*****

(ج) وان شروط التدريب الخاصة بالبطاريات المستنثاة أقل صرامة من تلك التي تطبق على البطاريات الخاضعة بالكامل للتنظيمات، ويضيق بذلك عنصر أساسي من التنظيمات لتحقيق السلامة. ولا يبدو ذلك مبرراً نظراً لأن بطاريات الليثيوم تمثل خطراً يتجاوز العديد من البضائع الخطرة الأخرى التي تخضع لكامل شروط التدريب.

(د) ولم يطلب القيام بعملية التحقق والتفتيش المتصلة بموافقة المشغل الجوي لنقل البطاريات المستنثاة. وقد يؤدي ذلك إلى زيادة فرص نقل طرد ألق به ضرر.

(هـ) ولا تستوجب البطاريات المستنثاة وضع لاصقات تشير إلى المخاطر على غلافها، فيطلب فقط وضع لاصق لمعالجة مناولة بطاريات الليثيوم، ولكن هناك شكوك حول فعالية هذا الإجراء على النحو التالي:

- (١) لا يطلب من الشاحنين الذين من واجبهم ان يضعوا هذا اللاصق الخاص بالمناولة أن يحصلوا على تدريب بشأن المواد الخطرة، مما يؤدي إلى تخفيض احتمالات الامتثال.
- (٢) لم يطلب من العاملين الذين يقبلون الشحن العام أن يقرأوا اللاصق الخاص بالمناولة، و لا أن يتفحصوا الغلاف للتأكد من عدم تعرضه للأضرار.
- (٣) كان المتصدون لحالات الطوارئ يحصلون على التدريب اللازم للتصرف في حالة وجود لاصقات تحدد فئات المخاطر وأرقام الأمم المتحدة الموضوعة على الطرود - ولم تعد هذه المعلومات موجودة.

٥-٧-١-٥ وأشير إلى أنه عندما أعدت الأحكام المنقحة لبطاريات الليثيوم في طبعة ٢٠٠٩-٢٠١٠ من التعليمات الفنية، والتي تضمنت الأحكام الخاصة بالكميات الصغيرة من بطاريات الليثيوم التي لم تخضع لكامل شروط التعليمات، لم يكن من المتوقع أن يستفيد بعض شاحني بطاريات الليثيوم من هذه الأحكام لتسهيل عملية شحنها بكميات كبيرة. وطالما ان ما من حدود قد فرضت على عدد الطرود التي تحتوي على بطاريات الليثيوم، فتم تجميع عدد كبير من البطاريات المستنثاة في أغلفة حاوية، وبعد ذلك تم وضعها على المنصات، وتم تحميلها على سطح وحدة منفردة للتحميل ونقلها على متن مستودعات شحن احدى الطائرات كمشحنة واحدة، مما أدى إلى زيادة المخاطر في حالة نشوب الحريق، بغض النظر عما إذا كان الحريق سببه البطاريات بحد ذاتها أو مصدر آخر.

٦-٧-١-٥ وشعر مقدم الاقتراح بأنه باعتماد التعديل سيدخل قدر كبير من المخاطر. وسيكون من الضروري إجراء التدريب للشاحنين الناقلين لبطاريات الليثيوم، ولا بد من القيام بالتحقق من الامتثال للأحكام لمنح الموافقة قبل التحميل

والتخزين على متن طائرة ولا بد للطيارين أن يبلغوا بتواجد بطاريات الليثيوم ومكانها وعددها. وفي الوقت نفسه، سيتم معالجة الدور الملحوظ الذي تضطلع به التجارة الالكترونية على الانترنت بالنسبة للجهات المصنعة لبطاريات الليثيوم والتجهيزات الالكترونية المنقولة للسماح بنقل شحنات صغيرة جدا من الخلايا والبطاريات من خلال المبيعات والخدمات على الانترنت. وقد تم الإقرار بأن ذلك سيؤثر على صناعة الشحن، ولكن منافع السلامة المترتبة على هذا الإجراء جعلته جديرا بالاهتمام. وقد اعتبر أن تخفيض الكمية سيجعل استخدام هذه الأحكام غير مجد وسيقرر لذلك الشاحنون إرسال بطارياتهم كشحنات خاضعة للتنظيمات بالكامل. وعلى الرغم من أن ذلك قد لا يمثل الحل الأمثل وقد يكون من الضروري إدخال مزيد من التعديلات في المستقبل، شعر المجتمعون أن أي خطأ من شأنه رفع مستويات السلامة هو خطأ مقبول. وسيؤدي هذا النهج إلى إدراج غالبية بطاريات الليثيوم في إطار البضائع الخطرة الخاضعة بالكامل للتنظيمات.

٧-٧-١-٥ وقد أيد البعض هذا الاقتراح. وقد أقر بأن التغيير لم يؤثر إلا على الحدود المفروضة على النوعية وبقية هيكلية التنظيمات على حالها وهي تظهر بشكل أدق النية الأساسية لفريق الخبراء. ومن الضروري إبلاغ قائد الطائرة بتواجد مثل هذه البنود، ويمثل هذا الاقتراح حلاً وسطاً مقبولاً ما بين فرض التنظيم الكامل للتنظيمات على جميع البطاريات والإبقاء على الحدود الحالية. ويعد الاقتراح تطوراً للشروط الحالية، ويظهر فهماً جديداً لكيفية نقل البطاريات جواً.

٨-٧-١-٥ وشعر بعض الأعضاء أنهم لم يستطيعوا دراسة هذا الاقتراح كما يجب، وادخال التعديلات المقترحة في مرحلة متأخرة جعلت من غير الممكن لهم أن يلتمسوا الاستشارات اللازمة من دولهم. وشرح مقدم الاقتراح أن التعديل قد أدخل على الورقة الأساسية في محاولة لمعالجة شواغل الهيئات المصنعة. وكانت هذه الشواغل قد أثرت بعد أن صدرت الورقة بصيغتها الأصلية. ولاحظ الأمين أنه في السابق قد ألفت اجتماعات فريق الخبراء المعني بالبضائع الخطرة وصول ورقات العمل بصورة متأخرة، ونظراً للقيود الزمنية المفروضة، بذلت قصارى الجهود لمعالجة هذه الورقات لاسيما إذا كانت تتناول مخاطر مرتبطة بالسلامة. وأقر فريق الخبراء بهذا الأمر ولكن بما أن التعديل ستكون له آثار كبيرة إذا اعتمد فمن الضروري إجراء مزيد من الاستشارات.

٩-٧-١-٥ ولم تتفق غالبية الأعضاء على الاقتراح لعدد من الأسباب التي تتضمن ما يلي:

(أ) على الرغم من حدوث بعض الوقائع التي انطوت على بطاريات الليثيوم، أفتتح بأن سبب هذه الوقائع يعزى إلى عدم امتثال الشاحنين للشروط القائمة حالياً ولا إلى أوجه الضعف التي يمكن أن تشوب مثل هذه الشروط.

(ب) وقد تم تسخير الكثير من الوقت والجهود لضمان كفاية الشروط الحالية، والتي أعدت لطبعة ٢٠٠٩-٢٠١٠ للتعليمات الفنية. وهي قد شكلت انخفاضاً بنسبة ٦٦٪ من الحد المفروض على الكمية الموجودة بالطرد الواحد لبطاريات أيونات الليثيوم، وانخفاضاً بنسبة ٩٠٪ لبطاريات معدن الليثيوم وفرض لاصق مناولة جديداً لبطاريات الليثيوم. وقد اعتبر أن هذه التخفيضات كانت كافية لتقليص المخاطر بشكل ملحوظ.

(ج) وتتمثل أحد أحوال الزاوية للامتثال للقواعد في استقرار التنظيمات. وبعد ثلاث سنوات من وقت اعتماد تلك التنظيمات، بدأ الشاحنون الآن يعتادون على هذه التعليمات، وإن إدخال تغيير عليها بدون أن يكون هناك ضرورة حاسمة من حيث السلامة أمر لا يمكن تبريره. لذلك، قد يقتضي ذلك عملية هائلة لإعادة التنقيف. وحتى الآن مازال بعض الشاحنين يطرحون الأسئلة بالنسبة للشروط الحالية وقد يفرض اعتماد تغييرات بشأنها الآن إلى الخط مما قد يؤثر سلباً على السلامة.

- د) لن يحقق الاقتراح هدفه، لأنه لن يتغير عدد البطاريات المسموح بنقلها بواسطة الشحن بكميات، على الرغم من أن عدد البطاريات بالطرد الواحد سيكون أصغر، وأن عدد الطرود بكل بساطة سيزداد.
- هـ) وإذا ما اعتمدت التعديلات بسرعة قد يكون من الضروري إدخال مزيد من التعديلات إذا لم تعالج جميع الجوانب معالجة مناسبة.
- و) وقد سخر الشاحنون موارد كبيرة في بذل الجهود للامتثال للشروط الحالية، فإن الزيادة في التكاليف قد تؤدي إلى زيادة في حالات عدم الامتثال غير المقصودة.
- ز) وما من إثبات يدل على أن زيادة الشروط سوف تؤدي بالضرورة إلى تعزيز مستويات السلامة.

١٠-٧-١-٥ ووافق مقدم الاقتراح على أن المحافظة على استقرار التنظيمات أمر أساسي، ولكن أوضح أن ذلك لا ينبغي أن يحول دون أن يقوم فريق الخبراء بإدخال تعديلات إذا تم تحديد أوجه قصور في مجال السلامة. وإن تحديد المخاطر المرتبطة بنقل المواد والأجهزة، مثل بطاريات الليثيوم لم يكن من الأمر السهل، كما هو الحال بالنسبة للمواد والأدوات. فلسنوات عديدة وضعت منهجيات واضحة لتحديد المخاطر المرتبطة بالمواد والأدوات. وبعد تحديد المخاطر كان من غير المرجح أن يتم إدخال أي تعديلات على الإجراءات. أما بالنسبة للبنود والأجهزة الجديدة، فإن رد فعل السوق والتغيرات في التكنولوجيا يمكن أن تؤدي إلى زيادة المخاطر، ولا بد لفريق الخبراء أن يتصدى لهذه المسائل. لذلك يمكن استخدام التكنولوجيات الجديدة للمساعدة على تحديد هذه المخاطر بشكل أفضل. ويمكن استخدام نتائج الاختبارات كأداة في الجهود التي تبذل لكي تكون الإجراءات معروفة مسبقاً بدلاً من أن تكون مجرد رد فعل. فلا يسعنا انتظار واقعة أو حادثة قبل إجراء التغيير اللازم.

١١-٧-١-٥ وعلى الرغم من أن غالبية الأعضاء في الفريق لم يؤيدوا التعديل المقترح، توافقت الآراء حول ضرورة إجراء استعراض كامل للموضوع المتعلق ببطاريات الليثيوم. ومن بين المجالات المحددة التي تحتاج إلى المعالجة هي كيفية توفير التفاصيل عن الطرود التي تتضمن كميات صغيرة من بطاريات الليثيوم، لكي تظهر على الإخطار المقدم إلى قائد الطائرة. ولا يمكن تحقيق هذا الغرض بطريقة مجزأة، وشعر المجتمعون بأن أفضل طريقة لإنجاز تلك المهمة تتمثل في عقد اجتماع لمجموعة العمل للنظر في جميع الجوانب المحيطة بهذا الموضوع. ووفقاً لذلك، اتفق فريق الخبراء على تحديد موعد لعقد اجتماع لمجموعة العمل في أوائل سنة ٢٠١٢.

١٢-٧-١-٥ وفي أثناء مناقشة الاقتراح، أبلغ المجتمعون بأنه مازالت هناك الفوارق قائمة ما بين المشغلين الجويين في تفسير مستوى مسؤولياتهم بخصوص البطاريات المستنثة. وقد تمت مناقشة هذه المسألة في وقت سابق في إطار مجموعة عمل سابقة (DGP-WG/09)، وكانت أكدت مجموعة العمل تلك أنه بالنسبة للبطاريات المستنثة لم يترتب على المشغلين أي مسؤولية للتحقق قبل القبول أو لاجراء مناولة خاصة لهذه الإرساليات. فيمكن للشاحنين أن يرسلوا الوحدات أو الطرود التي تتضمن بطاريات الليثيوم، ويمكن لوكلاء الشحن أن يجمعوا الإرساليات المتعددة للطرود التي تحتوى على بطاريات الليثيوم في وحدة تحميل منفردة.

٨-١-٥ الأجهزة المساعدة على التنقل المشغلة ببطاريات أيونات الليثيوم (DGP/23-WP/75, Revised)

١-٨-١-٥ أبلغ الاجتماع بالتصاميم الجديدة للأجهزة المساعدة على التنقل التي تتطلب سحب بطارية أيونات الليثيوم من الجهاز، فيتم تخزين ونقل هذه الأجهزة بصورة تتسم بالكفاءة والفاعلية. وقد اقترح أنه سيكون من الأسلم اشتراط بطاريات أيونات الليثيوم بعد سحبها من الأجهزة على متن مقصورة الطائرة بدلاً من أن تترك كمتاع من الأمتعة المسجلة مع الجهاز. وقد أبلغ الفريق بأن الأجهزة المساعدة على التنقل هذه تتطلب بطاريات أيونات الليثيوم العاملة بطاقة تتخطى

حدود ١٦٠ وات في الساعة المنصوص عليها في الشرط الحالي. لذلك، اقترح فرض حد مقداره ٣٠٠ وات بالساعة للبطاريات التي يجب سحبها من الجهاز في أثناء النقل.

٢-٨-١-٥ وتم تنقيح ومناقشة التعديل ونوقش بالتزامن مع الاقتراحات الواردة في ورقة العمل (DGP/23-WP/57) (انظر الفقرة ٢-٩-٤ وورقة العمل DGP/23-WP/80 (انظر الفقرة ١-٥-٩)). واتفق على وجوب قيام مستخدم الأجهزة بسحب البطارية من الجهاز في الحالات التي تسري عليها هذه القاعدة، مع ادخال بعض التعديلات التحريرية.

٩-١-٥ بطاريات أيونات الليثيوم الاحتياطية للكراسي المتنقلة المشغلة بالبطاريات (DGP/23-WP/80)

١-٩-١-٥ في الاجتماع الثاني والعشرين لفريق الخبراء تم توسيع نطاق تطبيق الأحكام المفروضة على الركاب والطاقم في الجزء الثامن لتضمن الأجهزة المساعدة على التنقل التي تعمل ببطاريات الليثيوم. وقد نظر الاجتماع السابق في إمكانية السماح بنقل الركاب وطاقم الطائرة للبطاريات الاحتياطية من جانب، ولكن قرر الفريق عدم السماح بذلك لأن معدل الوات بالساعة لتلك البطاريات تتخطى ١٦٠ وات بالساعة.

٢-٩-١-٥ وأبلغ الاجتماع الثالث والعشرون من فريق الخبراء المعني بالبيضاء الخطرة بأن بطاريات جديدة قد أعدت للكراسي المتنقلة والتي لا تتخطى معدل ١٦٠ وات في الساعة. لذلك، أقترح ادراج بطاريات أيونات الليثيوم الاحتياطية للكراسي المتنقلة المشغلة بالبطاريات في أحكام الركاب.

٣-٩-١-٥ ونقح التعديل ونوقش بالتزامن مع الاقتراحات الواردة في ورقة العمل (DGP/23-WP/57) (انظر الفقرة ٢-٩-٤) وورقة العمل DGP/23-WP/75, Revised (انظر الفقرة ١-٥-٨). ووافق المجتمعون على التعديل.

١٠-١-٥ بطاريات الليثيوم (DGP/23-WP/81)

١-١٠-١-٥ أبلغت الأمانة الفريق بالشواغل التي أعربت عنها لجنة الملاحة الجوية بعد اجتماع الفريق الثاني والعشرين بخصوص بطاريات الليثيوم، لاسيما بالنسبة لإرسالها بواسطة الشحن بكميات كبيرة. وقد أثارَت لجنة الملاحة الجوية شواغل عديدة من بينها ما يلي:

(أ) الاستثناءات من تطبيق جميع الشروط الواردة في التعليمات الفنية؛

فقد فهمت لجنة الملاحة الجوية أن موضوع الاستثناءات قد انبثق عن الأمم المتحدة، ومن الأفضل معالجته في محافل الأمم المتحدة. ولكن ينبغي لفريق الخبراء أن يستعرض الاستثناءات من وجهة نظر الطيران.

(ب) معرفة إذا كان من الضروري إجراء اختبارات جديدة.

(ج) تحديد سياسة تعميم المعلومات ووضع الإرشادات بشأن النقل المأمون للبطاريات الليثيوم.

(د) تحسين التدريب لجميع المعنيين بنقل تلك البطاريات.

٢-١٠-١-٥ ودعي الأعضاء إلى الأخذ علماً بالشواغل المذكورة وإعلام المجتمعين بأي مبادرات أنجزت في دولهم أو منظماتهم متعلقة بسياسة تعميم المعلومات ووضع الإرشادات وتوفير التدريب.

٣-١٠-١-٥ لقد تم الإبلاغ عن عدة نشاطات تعميم المعلومات وهي على الشكل التالي:

- (أ) أبلغ أحد الأعضاء أن دولته في طور إعداد شريط فيديو تنقيفي موجه للشاحنين والمرسلين (البريد) والركاب والمشغلين.
- (ب) قدم عضو آخر المبادرات التي تتخذها دولته والتي تضمنت ملصقات مع صور للفت الانتباه إلى بطاريات الليثيوم، والمقصد هو استهداف الركاب الشباب من خلال التنقيف. وبرزت فكرة أيضا بالنسبة إلى التنقيف والتعليم من خلال اتاحة كتب التلوين المقدمة في أثناء السفر جوا.
- (ج) أبلغ أحد ممثلي صناعة البطاريات بالجهود المنسقة الآيلة إلى إنتاج وإعداد فيديو بشأن شحن بطاريات الليثيوم والذي قد يتضمن الإشارة إلى التعليمات. وسيوفر هذا الشريط بعدة لغات.
- (د) أبلغ أحد الأعضاء أيضا بالإرشادات التي ترد على موقع الإنترنت لسلطة الطيران المدني في دولته والتي تتضمن نصوصا وصورا مرتبطة ببطاريات الليثيوم وبطاريات الليثيوم المتواجدة في المعدات وبطاريات الليثيوم التي تغلف ضمن المعدات. وتتوافر هذه المواد أيضا بعدة لغات.
- (هـ) وفر أحد الأعضاء أيضا بعض المعلومات والمواد الخاصة بمنظّمته والتي تم إعدادها بنسبة لشاحني بطاريات الليثيوم وبالنسبة للركاب لتبنيهم بخصوص بطاريات الليثيوم في الأمتعة. بالإضافة إلى ذلك سنتنظم وحلقة عمل تدوم يومين بشأن بطاريات الليثيوم في شانغهاي بعد اجتماع الفريق بثلاثة أسابيع.

١١-١-٥ شروط إخطار الطيار بتواجد بطاريات الليثيوم (DGP/23-WP/95)

١-١١-١-٥ أُرجئت مناقشة ورقة العمل المذكورة أعلاه إلى حين انعقاد مجموعة العمل المعنية ببطاريات الليثيوم التي تم أنشاؤها في أثناء مناقشة ورقة العمل DGP/23-WP/72 (انظر الفقرة ٧-١-٥).

١٢-١-٥ استخدام عبارة غير مقيدة "Not Restricted" في القسم الثاني من تعليمات تغليف بطاريات الليثيوم (DGP/23-WP/97)

١-١٢-١-٥ يتطلب القسم الثاني من تعليمات تغليف بطاريات الليثيوم من الشاحنين أن يثيروا في بوليصة الشحن إلى ما هو نوع أو أنواع بطاريات الليثيوم التي تحتويها الإرسالية ورقم تعليمات التغليف المنطبقة عليها بالإضافة إلى عبارة "غير مقيدة". وقد أبلغ بأن بعض الشاحنين والمصنعين قد فسروا عبارة "غير مقيدة" بأن الإرسالية لا تتضمن البضائع الخطرة ووضعوا بيانا لهذا الغرض في المعلومات المقدمة إلى عملائهم. وقيل إن عبارة "غير مقيدة" غير مناسبة، واقترح استخدام العبارة التالية: "تستوفي شروط القسم الثاني".

٢-١٢-١-٥ وأيد هذا الاقتراح الخبراء تأيدا كاملا. وقد تم الإبلاغ عن العديد من حالات سوء تفسير عبارة "غير مقيدة"، ومن بينها أن عبارة "غير مقيدة" تعني أن الإرسالية لم تعد تعتبر محتوية على البضائع الخطرة. واتفق المجتمعون على التعديل بعد تنقيحه تنقيحا تحريريا بسيطا.

١٣-١-٥ تنقيح القسم الثاني لتعليمات تغليف بطاريات الليثيوم (DGP/23-WP/101, Revised)

١-١٣-١-٥ أُشير إلى أن تعليمات الحظر التي أُدرجت في بداية تعليمات التغليف من ٩٦٥ إلى ٩٧٠ المرتبطة بالبطاريات الفاسدة والبطاريات التالفة والبطاريات المشحونة لإعادة التدوير، الخ. ينبغي أن تستنسخ في بداية القسم الثاني من هذه التعليمات. وقد اقترح أيضا إدراج إشارة إلى الشروط الجديدة للخلايا والبطاريات التي ينبغي تصنيعها بموجب برنامج إدارة النوعية، والتي اعتمدت في الفقرة ٩-٣ من الجزء ٢ وإضافتها إلى جميع التعليمات الخاصة بتغليف بطاريات الليثيوم.

٢-١٣-١-٥ اعتمد الاجتماع التعديل، رهنا بتعديلات تحريرية.

٢-٥ التوصية

١-٢-٥ في ضوء المناقشات المذكورة أعلاه، أعد الاجتماع التوصية التالية:

التوصية ١/٥ — تعديل أحكام بطاريات الليثيوم في التعليمات الفنية للنقل الآمن للبضائع الخطرة عن طريق الجو (Doc 9284)

تعدل الأحكام المرتبطة ببطاريات الليثيوم في التعليمات الفنية على النحو الوارد في المرفق (ألف) بالتقرير بشأن هذا البند من جدول الأعمال.

٣-٥ البند ٢-٥ من جدول الأعمال: إعداد الأحكام الخاصة بنقل البضائع الخطرة على متن طائرات الهليكوبتر

١-٣-٥ نقل البضائع الخطرة على متن طائرات الهليكوبتر (DGP/23-WP/65)

١-١-٣-٥ بدأت مناقشة موضوع نقل البضائع الخطرة على متن طائرات الهليكوبتر قبل انعقاد الاجتماع الثاني والعشرين لفريق الخبراء، وتمت مواصلتها في إطار استعراض ورقتي العمل DGP-WG/10 و DGP-WG/11. وفسرت بعض المجموعات عدم الإشارة بوجه خاص إلى عمليات طائرات الهليكوبتر بأن جميع الأحكام الواردة في التعليمات الفنية تنطبق على عمليات الهليكوبتر. ولكن، قد أُقر بأن عمليات طائرات الهليكوبتر مختلفة اختلاف كبيراً عن عمليات الطائرات ذات الأجنحة الثابتة، وذلك بسبب طبيعة الطائرة وفتات العمليات التي تنفذ. ووفقاً لذلك، قدمت إلى الاجتماع تعديلات لإدخالها على التعليمات الفنية والإضافة الملحقة بها. وتم وصف ثلاثة مستويات للتعديلات على الشكل التالي:

(أ) تعديل على مستوى عالٍ للجزء الأول من التعليمات الفنية للتوضيح بأن أحكام التعليمات الفنية تنطبق على البضائع الخطرة المنقولة على متن أي طائرة، أكانت تنقل في إطار عملية داخلية أو خارجية.

(ب) وتعديلات لمعالجة الأحكام في التعليمات الفنية التي يتعذر أن تمتثل لها طائرات الهليكوبتر.

(ج) وتعديلات لمعالجة العمليات التي لا يمكن تنفيذها بدون الحصول على الموافقة.

٢-١-٣-٥ وقدمت تعليقات كثيرة من بينها ما يلي:

(أ) أن بعض الجهات لا تفسر طائرة الهليكوبتر على أساس أنها من طائرات الشحن، فلذلك من الأفضل الإشارة إلى طرود الشحن على متن طائرات الهليكوبتر.

ب) وتم التشكيك في السماح بتوخي الإيجاز في الإخطار المقدم إلى قائد الطائرة، لأن البعض شعر أنه ينبغي أن يُطلب تنفيذ البنود المحددة حالياً في التعليمات بالنسبة لطائرات هليكوبتر، على الرغم من أنه من الممكن قبول استمارة جديدة (أبلغ أحد الأعضاء بأن دولته تستخدم قائمة مرجعية).

ج) وينبغي أن تتخطى معلومات التصدي لحالات الطوارئ شكل البيان العام في دليل العمليات للهبوط (من غير الممكن دوماً تنفيذ الهبوط السريع).

د) وينبغي أن يقتصر تعريف النقل الخارجي على طائرات هليكوبتر ولا يمتد ليشمل الطائرة.

هـ) ومن غير المناسب الإشارة إلى عمليات طائرات هليكوبتر بطيار واحد.

و) وينبغي ألا يسمح بنقل بضائع خطيرة في مقصورة الركاب.

ز) ويجب التشديد على شروط التدريب الإلزامي لطائرات هليكوبتر التي تنقل البضائع الخطرة.

٣-١-٣-٥ واجتمعت مجموعة العمل لإجراء مناقشة مفصلة بشأن التعديلات والتعليقات التي وفرها فريق الخبراء. وقدم اقتراح منقح على أساس ما ذكر أعلاه، وتمت الموافقة عليه. وأعرب فريق الخبراء عن جليل امتنانه للمجموعة التي أعدت التعديلات وأحاط علماً أنه من الضروري إضافة الأحكام الخاصة بطائرات هليكوبتر إلى التعليمات الفنية.

٤-٥ التوصية

١-٤-٥ وفي ضوء المناقشات المذكورة أعلاه أعد الاجتماع التوصيات التالية:

التوصية رقم ٢/٥ — إضافة أحكام لنقل البضائع الخطرة على متن طائرات هليكوبتر في التعليمات الفنية للنقل الآمن للبضائع الخطرة عن طريق الجو (Doc 9284)

تضاف أحكام لنقل البضائع الخطرة على متن طائرات هليكوبتر إلى التعليمات الفنية كما هو مذكور في المرفق (باء) بالتقرير الخاص بهذا البند من جدول الأعمال.

التوصية رقم ٣/٥ — إضافة أحكام خاصة بنقل البضائع الخطرة على متن طائرات هليكوبتر في الإضافة إلى التعليمات الفنية للنقل الآمن للبضائع الخطرة عن طريق الجو (Doc 9284)

تضاف أحكام خاصة بنقل البضائع الخطرة على متن طائرات هليكوبتر إلى التعليمات الفنية، كما هو مذكور في المرفق (جيم) بالتقرير بشأن هذا البند من جدول الأعمال.

٥-٥ البند ٥-٣ من جدول الأعمال: استعراض الأحكام المتعلقة بتقديم المعلومات إلى قائد الطائرة

١-٥-٥ تعديلات مقترحة للأحكام المتعلقة بإخطار قائد الطائرة (DGP/23-WP/35 و DGP/23-WP/35 ، المنقحة)

١-٥-٥-١ اقترح تعديل الفقرة ٤-١ من الجزء ٧ بحيث يطلب توفير المعلومات عن البضائع الخطرة إلى مرسل الطائرة بالإضافة إلى قائد الطائرة. ومن شأن ذلك التعديل أن يؤدي إلى اطلاع العاملين في مجال الإنقاذ وإطفاء حرائق الطائرات على المعلومات عن البضائع الخطرة بصورة سريعة، وقد لوحظ أن مرجلي الطائرات يتحملون المسؤولية أصلاً مع الطيار بالنسبة للعديد من جوانب الرحلة بما في ذلك حالات الطوارئ. وبما أن الملحق السادس يتضمن الشروط الخاصة بمرجلي الطائرات، وأن عبارة "مسؤول عن عمليات الطائرات/مرجل الطائرات" استخدمت في ذلك الملحق، فقد نقح الاقتراح للإشارة إلى هذه العبارة، واعتبر أن عبارة "مرجل الطائرة" وحدها مقيدة جداً.

٢-١-٥-٥ وأيد الاجتماع الاقتراح من حيث المبدأ ولكن أثير عدد من الشواغل على الشكل التالي:

(أ) شعر بعض الأعضاء أنه ينبغي توسيع نطاق المصطلحات لتتضمن الإشارة إلى العاملين الميدانيين المعيّنين والمسؤولين عن عمليات الطائرات، وقد أضيفت هذه الإشارة.

(ب) وشعر أحد الأعضاء أنه لا بد من توضيح الصياغة لضمان أن قائد الطائرة من جهة ومرجل الطائرة من جهة أخرى يحصلان على نفس المعلومات. واعتبر غالبية الأعضاء أن هذا الموضوع أصلاً واضح بصيغته الحالية، ولكن يمكن تنقيح النص للإشارة إلى أن الحصول على نسخة من إخطار قائد الطائرة (NOTOC) أمر مقبول. وقد لاحظ الخبراء أنه لن يفرض أي شرط على أي شخص غير قائد الطائرة للتوقيع على هذه الوثيقة.

(ج) واقترح اعتماد مصطلحات جديدة لإظهار شروط التدريب في الجدولين ١-٤ و ١-٥. ولكن اعتبر فريق الخبراء أنه من غير الضروري القيام بذلك، لأن التدريب سيكون مطلوباً لمرجلي الطائرات والمسؤولين عن عمليات الطيران، بموجب أحكام الملحق السادس. وقد أزيل هذا الشرط، ولكن اتفق الخبراء على إثارة هذه المسألة في إطار مجموعة عمل مشتركة يتم إنشاؤها مع فريق الخبراء المعني بالعمليات (انظر الفقرة ٦-٢).

(د) واقترح أن النص يوضح المقصد من هذا الشرط سيجعل التنفيذ أكثر كفاءة، لأنه من الأرجح أن يستجيب الأشخاص بدرجة أكبر إلى الشروط القائمة على النتائج.

(هـ) وقد اتفق على توفير فترة انتقالية لإتاحة الوقت للمشغلين لتنفيذ هذا الشرط الجديد.

٣-١-٥-٥ واتفق فريق الخبراء على اقتراح منقح يعالج الشواغل المذكورة.

٢-٥-٥ استعراض الشروط لتوفير المعلومات إلى قائد الطائرة (DGP/23-WP/96)

١-٢-٥-٥ أبلغ المجتمعون بالأعمال التي يجريها فريق العمل المعني بإخطار قائد الطائرة. وكما أبلغ المجتمعون بالاختلافات في الآراء لمعرفة إذا كانت الأحكام الحالية مناسبة أو إذا كان ينبغي تعديلها. واعتبر البعض أن الأحكام

الحالية مناسبة، في حين ارتأى آخرون أنه يمكن استخدام تكنولوجيات جديدة لتسهيل ما هو مطلوب حالياً ولإضافة عناصر جديدة غير مطلوبة حالياً. ولاحظت الأمانة أن ضمان نقل المعلومات الصحيحة إلى الأطراف المعنية أمر أساسي بغض النظر عن كمية المعلومات المتوفرة.

٥-٢-٢-٥ وافق على أن لهذه المسألة نطاقاً أوسع مما كان متوقفاً في الأصل. وثمة حاجة إلى إجراء تحليل شامل للاحتياجات إلى المعلومات بالنسبة إلى جميع الأطراف المعنية بالتصدي لحالات الطوارئ. وفي غضون فترة السنتين المقبلة، سيشكل فريق عمل بالمراسلة.

٦-٥ توصية

٥-٦-٥ في ضوء المناقشات المذكورة أعلاه، أعد الاجتماع التوصية التالية:

التوصية رقم ٤/٥ — تعديل أحكام إخطار الطيار في التعليمات الفنية للنقل الآمن للبضائع الخطرة عن طريق الجو (Doc 9284)

تعدل الأحكام المرتبطة بإخطار قائد الطائرة في التعليمات الفنية على النحو المبين في المرفق (دال) بالتقرير بشأن هذا البند من جدول الأعمال.

٧-٥ البند رقم ٥-٤ من جدول الأعمال: إعداد قواعد قياسية لأداء موظفي الدولة

٥-٧-٥ إطار المؤهلات لموظفي الدولة (DGP/23-WP/52) والأطر العامة لقدرات الشاحنين ووكلاء الشحن (DGP/23-WP/82)

٥-٧-١-١ اقترح تنقيح التعليمات الفنية لتضمن إشارة إلى التدريب القائم على القدرات، وتعديل الإضافة إلى التعليمات لتضمن إرشادات بشأن التدريب القائم على القدرات، مع تحديد إطار مؤهلات موظفي الدولة. وقد أعدت "مجموعة العمل المعنية بالتدريب" التابعة لفريق الخبراء برئاسة السيد تي. مولر من هولندا إطار مؤهلات موظفي الدولة الذين يشاركون في عملية وضع التنظيمات والمراقبة في مجال نقل البضائع الخطرة جواً. وقد قدم هذا التعديل إلى الاجتماع الحادي عشر لمجموعة العمل، وتم الاتفاق عليه من حيث المبدأ.

٥-٧-١-٢ وأعدت مجموعة عمل تابعة للأمانة العامة أطر عامة لمؤهلات العاملين في مجال الشحن ووكلاء الشحن الذين يشاركون في نشاطات وضع التنظيمات والمراقبة لنقل البضائع الخطرة جواً. وقبل تقديم الأطر العامة، دُعيت مسؤولية فنية من قسم تدريب الطيران المدني للايكاو لتقديم الأطر العامة، وقبل تقديم الأطر العامة، دُعيت مسؤولية المدني. وأعلنت المسؤولية المجتمعية بأن الغرض من هذه السياسة هو ضمان أن جميع عمليات التدريب، التي توفرها الايكاو أو الأطراف الأخرى بالنيابة عن الايكاو، تفي بقواعد صارمة لتصميم وإعداد دورات التدريب. ويتضمن ذلك الهدف الحالي للمنظمة المتمثل في الوصول إلى التدريب القائم على القدرات. ووصفت المسؤولية الفنية وصفاً موجزاً لما يقصد بالتدريب القائم على القدرات. وأبلغت أن الايكاو قد أعدت مجموعة من الأطر العامة للقدرات منذ أكثر من عقد كامل. وقد تم إعداد أطر لإجازة الطاقم المتعدد الأعضاء وللفاحصين الطبيين المعيّنين ولمصممي إجراءات الطيران وللطيارين المتحققين من صلاحية الرحلات وللعاملين في مجال صيانة الطائرات، و حالياً يتم إعداد إطار عام لمراقبي الحركة الجوية

والعاملين في مجال الإلكترونيات الحركة الجوية والعاملين في إدارة معلومات الطيران. وتتضمن وثيقة إجراءات خدمات الملاحة الجوية - التدريب (PANS TRG, 9868) الإجراءات الفعلية لمنظمات التدريب لتطبيقها عند توفير التدريب للعاملين في مجال الطيران.

٣-١-٧-٥ وطلب من الفريق أن يستعرض الأطر العامة للشاحنين ووكلاء الشحن وليعلق عليها. وطلب أيضا إلى الفريق أن ينظر فيما إذا كان ثمة حاجة إلى مزيد من المواد الإرشادية لدعم الدول في عملية تنفيذها للأطر. وفي نهاية المطاف، طلب أيضا من المجموعة أن توجه عناية الأمانة إلى أي إجراء متابعة يمكن أن يعتبر ضروريا، مثل إعداد أطر عامة لقدرات العاملين في جوانب أخرى في مجال البضائع الخطرة.

٤-١-٧-٥ ورحب فريق الخبراء بالتعديل وبالأطر. وقد أقر بأن هناك نقصا في الإرشادات عن إعداد برامج التدريب، وأن هذه المواد ستمثل أداة ثمينة بين الدول عند إعداد برامجها التدريبية. فثمة فوارق كبيرة حاليا بالنسبة لكيفية إجراء التدريب في العالم، وستوفر هذه الأطر نهجا أكثر اتساقا.

وفكر الفريق فيما إذا كان ينبغي إدراج عنصر القدرات في الإضافة أو في وثيقة إجراءات خدمات الملاحة الجوية - التدريب (PANS-TRG) أو في وثيقة قائمة بحد ذاتها (انظر الضمائم (ألف) و(باء) و(جيم) في المرفق (هاء)). واتفق على أن الوثائق القائمة بحد ذاتها ستكون الأنسب في هذه الفترة.

٨-٥ التوصية

١-٨-٥ وفي ضوء المناقشات السابقة، أعد الاجتماع التوصية التالية:

توصية ٥/٥ — إضافة أحكام متعلقة بالتدريب القائم على القدرات في التعليمات الفنية للنقل الآمن للبضائع الخطرة عن طريق الجو (Doc 9284)

إضافة الأحكام للتدريب القائم على القدرات إلى التعليمات الفنية على النحو المبين في المرفق (هاء) بالتقرير بشأن هذا البند من جدول الأعمال، وإصدار أطر المؤهلات المقدمة في الضمائم (ألف و(باء) و(جيم) في المرفق إلى (هاء)) في كتاب دوري تنشره الأيكاو.

APPENDIX A

PROPOSED AMENDMENTS TO PROVISIONS RELATED TO LITHIUM BATTERIES IN THE TECHNICAL INSTRUCTIONS FOR THE SAFE TRANSPORT OF DANGEROUS GOODS BY AIR

Part 8

PROVISIONS CONCERNING PASSENGERS AND CREW

...

1.1 DANGEROUS GOODS CARRIED BY PASSENGERS OR CREW

The amendments to Part 8 are based on the new structure agreed under discussions of Agenda Item 2 (See paragraph 2.9.1 of this report).

Table 8-1. Provisions for dangerous goods carried by passengers or crew

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			

Medical necessities

...

See paragraphs 2.9.4, 5.1.8 and 5.1.9 of this report:

e5) Battery-powered wheelchairs or other similar mobility aids with non-spillable <u>wet</u> batteries <u>or with batteries which comply with Special Provision A123</u>	Yes	No	No	Yes	(see 5 e) iv)	<p>4a) for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg);</p> <p>2b) <u>non-spillable batteries</u> must comply with Special Provision A67 or the vibration and pressure differential tests of Packing Instruction 872;</p> <p>3c) <u>the operator must verify that:</u></p> <p>Reorder paragraphs i), ii) and iii) as indicated:</p> <p><u>ii)</u> the battery terminals <u>must be are</u> protected from short circuits (e.g. by being enclosed within a battery container);</p> <p><u>4i)</u> the battery <u>must be is</u> securely attached to the wheelchair or mobility aid;</p> <p><u>5iii)</u> <u>electrical circuits have been isolated, the operator(s) must ensure</u></p>
--	-----	----	----	-----	---------------	---

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			
						<p>that:</p> <ul style="list-style-type: none"> — wheelchairs or other battery-powered mobility aids are carried in such a manner so as to prevent unintentional activation; and — they are protected from being damaged by the movement of baggage, mail, stores or other cargo; <p>d) <u>devices must be carried in a manner such that they are protected from being damaged by the movement of baggage, mail, stores or other cargo;</u></p> <p>e) <u>where a battery-powered wheelchair or other similar mobility aid is specifically designed to allow its battery(ies) to be removed by the user (e.g. collapsible):</u></p> <ul style="list-style-type: none"> <u>i) the battery(ies) must be removed. The wheelchair or mobility aid may then be carried as checked baggage without restriction;</u> <u>ii) the removed battery(ies) must be carried in strong, rigid packagings which must be stowed in the cargo compartment;</u> <u>iii) the battery(ies) must be protected from short circuit;</u> <u>iv) the pilot-in-command must be informed of the location of the packed battery; and</u> <p>f) it is recommended that passengers make advance arrangements with each operator.</p>

See paragraphs 2.9.4, 5.1.8 and 5.1.9 of this report:

f6) Battery-powered wheelchairs or other similar mobility aids with spillable batteries	Yes	No	No	Yes	Yes	<p>4a) for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg);</p> <p>2b) the wheelchair or mobility aid can be loaded, stowed, secured and unloaded always in an upright position and the;</p> <p><u>c) the operator must verify that:</u></p> <p>Reorder paragraphs i), ii) and iii) as indicated:</p> <p><u>ii) battery terminals are protected from short circuits (e.g. by being enclosed within a battery container); and</u></p>
---	-----	----	----	-----	-----	---

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			
						<p>i) and the battery is securely attached to the wheelchair or mobility aid;</p> <p>iii) electrical circuits have been isolated;</p> <p>3d) the operator(s) devices must ensure that wheelchairs or other battery-powered mobility aids are be carried in such a manner so as to prevent unintentional activation and such that they are protected from being damaged by the movement of baggage, mail, stores or other cargo;</p> <p>4e) if the wheelchair or mobility aid cannot be loaded, stowed, secured and unloaded always in an upright position, the battery (ies) must be removed and. The wheelchair or mobility aid may then be carried as checked baggage without restriction;</p> <p>5f) the removed battery must be carried in strong, rigid packagings as follows:</p> <ul style="list-style-type: none"> — the packagings must be leaktight, impervious to battery fluid and be protected against upset by securing them to pallets or by securing them in cargo compartments using appropriate means of securement (other than by bracing with freight or baggage) such as by use of restraining straps, brackets or holders; — batteries must be protected against short circuits, secured upright in these packagings and surrounded by compatible absorbent material sufficient to absorb their total liquid contents; <hr/> <p>See paragraph 3.2.29 of DGP/23-WP/2:</p> <hr/> <ul style="list-style-type: none"> — these packagings must be marked “Battery, wet, with wheelchair” or “Battery, wet, with mobility aid” and be labelled with a “Corrosive” label (Figure 5-22) and with a package orientation label (Figure 5-26) as required by 5.3; <p>6g) the pilot-in-command must be informed of the location of the wheelchair or mobility aid with an installed battery or the location of a packed battery.</p> <p>h) it is recommended that passengers make advance arrangements with each operator; also unless batteries are</p>

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			
						nospillable they should be fitted, where feasible, with spill-resistant vent caps.

See paragraph 3.2.51 of DGP/23-WP/3 and paragraphs 2.9.4, 5.1.8 and 5.1.9 of this report:

g7) Lithium-ion battery-powered wheelchairs or other similar mobility aids	Yes	(see 7 e)	No	Yes	Yes	<p>4a) for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg);</p> <p>2b) the batteries must be of a type which meets the requirements of each test in the UN <i>Manual of Tests and Criteria</i>, Part III, sub-section 38.3;</p> <p>3c) <u>the operator must verify that:</u></p> <p style="padding-left: 20px;">Reorder paragraphs i), ii) and iii) as indicated:</p> <p style="padding-left: 20px;">ii) <u>the battery terminals must be are</u> protected from short circuits (e.g. by being enclosed within a battery container); <u>and</u></p> <p style="padding-left: 20px;">i) <u>the battery is</u> securely attached to the <u>wheelchair or</u> mobility aid; <u>and</u></p> <p style="padding-left: 20px;">iii) <u>electrical circuits have been isolated;</u></p> <p>4d) <u>the operator(s) devices must ensure that such mobility aids are be</u> carried in a manner <u>so as to prevent unintentional activation and such</u> that they are protected from being damaged by the movement of baggage, mail, stores or other cargo; <u>and</u></p> <p>e) <u>where a battery-powered wheelchair or other similar mobility aid is specifically designed to allow its battery(ies) to be removed by the user (e.g. collapsible):</u></p> <p style="padding-left: 20px;">i) <u>the battery(ies) must be removed and carried in the passenger cabin;</u></p> <p style="padding-left: 20px;">ii) <u>the battery terminals must be protected from short circuit (by insulating the terminals e.g. by taping over exposed terminals);</u></p> <p style="padding-left: 20px;">iii) <u>the battery must be protected from damage (e.g. by placing each battery in a protective pouch);</u></p> <p style="padding-left: 20px;">iv) <u>removal of the battery from the device must be performed by following the instructions of the manufacturer or device owner;</u></p>
--	-----	-----------	----	-----	-----	---

Items or Articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked Baggage	Carry-on Baggage	On the person			
						<p><u>v) the battery must not exceed 300 Wh;</u></p> <p><u>vi) a maximum of one spare battery not exceeding 300 Wh or two spares not exceeding 160 Wh each may be carried; and</u></p> <p><u>e) the pilot-in-command must be informed of the location of the lithium ion battery(ies).</u></p> <p>5f) it is recommended that passengers make advance arrangements with each operator.</p>

...

519 Portable electronic devices (such as watches, calculating machines, cameras, cellular phones, laptop computers,) camcorders, etc.)

See paragraph 5.1.3 of this report:

Portable electronic devices containing lithium <u>metal</u> or lithium ion cells or batteries	Yes	Yes	Yes	No	No	<p>4a) carried by passengers or crew for personal use;</p> <p>2b) should be carried as carry-on baggage; <u>and</u></p> <p>3c) each battery must not exceed the following:</p> <ul style="list-style-type: none"> — for lithium metal batteries, a lithium content of not more than 2 grams; or — for lithium ion batteries, a watt-hour rating of not more than 100 Wh; <p>See paragraph 5.1.3 of this report:</p> <p><u>d) if devices are carried in checked baggage, measures must be taken to prevent unintentional activation; and</u></p> <p>See paragraph 3.2.53 of DGP/23-WP/3:</p> <p><u>e) batteries and cells must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, sub-section 38.3.</u></p>
Spare batteries for portable electronic devices containing lithium <u>metal</u> or lithium ion cells or	No	Yes	Yes	No	No	<p>4a) carried by passengers or crew for personal use;</p> <p>2b) must be individually protected so as to prevent short circuits (by placement in</p>

<i>Items or Articles</i>	<i>Location</i>			<i>Approval of the operator(s) is required</i>	<i>The pilot-in-command must be informed</i>	<i>Restrictions</i>
	<i>Checked Baggage</i>	<i>Carry-on Baggage</i>	<i>On the person</i>			
batteries						<p>original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch);</p> <p>3c) each battery must not exceed the following:</p> <ul style="list-style-type: none"> — for lithium metal batteries, a lithium content of not more than 2 grams; or — for lithium ion batteries, a watt-hour rating of not more than 100 Wh; <u>and</u> <p>See paragraph 3.2.53 of DGP/23-WP/3:</p> <p><u>d) batteries and cells must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, sub-section 38.3.</u></p>

...

Part 4

PACKING INSTRUCTIONS

...

Packing Instruction 965

Passenger and cargo aircraft for UN 3480

This entry applies to lithium ion or lithium polymer batteries.

~~Lithium Cells and~~ batteries, identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

See paragraph 2.3.3 of this report:

Waste lithium batteries and lithium batteries being shipped for recycling or disposal are ~~prohibited~~ ~~forbidden~~ from air transport unless approved by the appropriate national authority of the State of Origin and the State of the Operator.

Section I of this packing instruction applies to lithium ion and lithium polymer cells and batteries that are assigned to Class 9. Certain lithium ion and lithium polymer cells and batteries offered for transport and meeting the requirements of Section II of this packing instruction, subject to the paragraphs above, are not subject to other additional requirements of these Instructions.

SECTION I

Section I requirements apply to each cell or battery type that has been determined to meet the criteria for assignment to Class 9.

See paragraph 5.1.13 of this report:

Each cell or battery must:

- 1) be of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, ~~sub-section~~ 38.3; ~~and~~

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 2) incorporate a safety venting device or be designed to preclude a violent rupture under conditions normally incident to transport and be equipped with an effective means of preventing external short circuits; ~~and~~

- 3) be manufactured under a quality management programme as described in 2:9.3.1 e).

Each battery containing cells or a series of cells connected in parallel must be equipped with an effective means, as necessary, to prevent dangerous reverse current flow (e.g. diodes, fuses).

General requirements

Part 4;1 requirements must be met.

See paragraph 3.2.12 of DGP/23-WP/3:

<i>Contents</i>	<i>Package quantity (Section I)</i>	
	<i>Passenger</i>	<i>Cargo</i>
Lithium ion cells and batteries	5 kg-G	35 kg-G

See paragraph 2.5.1.9 of this report:

ADDITIONAL PACKING REQUIREMENTS

- Lithium ion cells and batteries must be protected against short circuits.
- Lithium ion cells and batteries must be placed in inner packagings that completely enclose the cell or battery then placed in an outer packaging. The completed package for the cells or batteries must meet the Packing Group II performance requirements.
- Lithium ion batteries with a mass of 12 kg or greater and having a strong, impact-resistant outer casing, or assemblies of such batteries, may be transported when packed in strong outer packagings, ~~or in~~ protective enclosures (e.g. in fully enclosed or wooden slatted crates) not subject to the requirements of Part 6 of these Instructions, if approved by the appropriate authority of the State of Origin. A copy of the document of approval must accompany the consignment.
- Batteries manufactured after 31 December 2011 must be marked with the Watt-hour rating on the outside case.

See paragraph 2.5.1.1 of this report:

OUTER PACKAGINGS*Boxes*

Aluminium (4B)
 Fibreboard (4G)
 Natural wood (4C1, 4C2)
 Other metal (4N)
 Plastics (4H2)
 Plywood (4D)
 Reconstituted wood (4F)
 Steel (4A)

Drums

Aluminium (1B2)
 Fibre (1G)
 Other metal (1N1)
 Plastics (1H2)
 Plywood (1D)
 Steel (1A2)

Jerricans

Aluminium (3B2)
 Plastics (3H2)
 Steel (3A2)

See paragraph 3.2.31 of DGP/23-WP/3:

SECTION II

With the exception of Part 1:2.3 (Transport of dangerous goods by post), 7:4.4 (Reporting of dangerous goods accidents and incidents) and 8:1.1 (Provisions for dangerous goods carried by passengers or crew), lithium ion cells and batteries offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

See paragraph 5.1.13 of this report:

Cells and batteries identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Waste lithium batteries and lithium batteries being shipped for recycling or disposal are forbidden from air transport unless approved by the appropriate national authority of the State of Origin and the State of the Operator.

Lithium ion cells and batteries may be offered for transport if they meet the following:

- 1) for lithium ion cells, the Watt-hour rating (see the Glossary of Terms in Attachment 2) is not more than 20 Wh;
- 2) for lithium ion batteries, the Watt-hour rating is not more than 100 Wh;
 - the Watt-hour rating must be marked on the outside of the battery case except for those batteries manufactured before 1 January 2009;
- 3) each cell or battery is of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3. However, batteries and cells manufactured before 1 January 2014 conforming to a design type tested according to the requirements of the fifth revised edition of the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3 may continue to be transported;

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 4) cells and batteries must be manufactured under a quality management programme as described in 2:9.3.1 e).

General requirements

Batteries must be packed in strong outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1).

Contents	Package quantity (Section II)	
	Passenger	Cargo
Lithium ion cells and batteries	10 kg G	10 kg G

ADDITIONAL PACKING REQUIREMENTS

- Cells and batteries must be packed in inner packagings that completely enclose the cell or battery then placed in a strong outer packaging.
- Cells and batteries must be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to a short circuit.
- Each package must be capable of withstanding a 1.2 m drop test in any orientation without:
 - damage to cells or batteries contained therein;
 - shifting of the contents so as to allow battery to battery (or cell to cell) contact;
 - release of contents.
- Each package must be labelled with a lithium battery handling label (Figure 5-31).
- Each consignment must be accompanied with a document with an indication that:
 - the package contains lithium ion cells or batteries;
 - the package must be handled with care and that a flammability hazard exists if the package is damaged;
 - special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary;
 - a telephone number for additional information; and

See paragraph 5.1.12 of this report:

- the words “lithium ion batteries”, “~~not restricted~~” and “~~in compliance with Section II of PI965~~” must be placed on the air waybill, when an air waybill is used.
- Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with their responsibilities.

OUTER PACKAGINGS*Boxes**Drums**Jerricans*

Strong outer packagings

See paragraph 5.1.5 of this report:

OVERPACKS

When packages are placed in an overpack, the lithium battery handling label required by this packing instruction must either be clearly visible or the label must be affixed on the outside of the overpack and the overpack must be marked with the word “Overpack”.

Packing Instruction 966

Passenger and cargo aircraft for UN 3481 (packed with equipment) only

This entry applies to lithium ion or lithium polymer batteries packed with equipment.

~~Lithium Cells and~~ batteries, identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Section I of this packing instruction applies to lithium ion and lithium polymer cells and batteries that are assigned to Class 9. Certain lithium ion and lithium polymer cells and batteries offered for transport and meeting the requirements of Section II of this packing instruction, subject to the paragraph above, are not subject to other additional requirements of these Instructions.

SECTION I

Section I requirements apply to each cell or battery type that has been determined to meet the criteria for assignment to Class 9.

See paragraph 5.1.13 of this report:

Each cell or battery must:

- 1) be of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, ~~sub-section 38.3; and~~

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 2) incorporate a safety venting device or be designed to preclude a violent rupture under conditions normally incident to transport and be equipped with an effective means of preventing external short circuits; ~~and-~~

- 3) be manufactured under a quality management programme as described in 2.9.3.1 e).

Each battery containing cells or a series of cells connected in parallel must be equipped with an effective means, as necessary, to prevent dangerous reverse current flow (e.g. diodes, fuses).

General requirements

Part 4;1 requirements must be met.

See paragraph 3.2.12 of DGP/23-WP/3:

<i>Contents</i> <i>UN Number and Name</i>	<i>Package quantity</i> <i>(Section I)</i>	
	<i>Passenger</i>	<i>Cargo</i>
Quantity of lithium ion cells and batteries per package, excluding equipment <u>UN 3481 Lithium ion batteries packed with equipment</u>	5 kg <u>of lithium ion cells or batteries</u>	35 kg <u>of lithium ion cells or batteries</u>

ADDITIONAL PACKING REQUIREMENTS

- Lithium ion cells and batteries must be protected against short circuits.
- Lithium ion cells or batteries must:
 - be placed in inner packagings that completely enclose the cell or battery then placed in an outer packaging. The completed package for the cells or batteries must meet the Packing Group II performance requirements; or
 - be placed in inner packagings that completely enclose the cell or battery, then placed with equipment in a package that meets the Packing Group II performance requirements.
- The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
- For the purpose of this packing instruction, “equipment” means apparatus requiring the lithium ion batteries with which it is packed for its operation.
- Batteries manufactured after 31 December 2011 must be marked with the Watt-hour rating on the outside case.

OUTER PACKAGINGS

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (1B2)	Aluminium (3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (3H2)
Natural wood (4C1, 4C2)	Plastics (1H2)	Steel (3A2)
Plastics (4H2)	Plywood (1D)	
Plywood (4D)	Steel (1A2)	
Reconstituted wood (4F)		
Steel (4A)		

See paragraph 3.2.31 of DGP/23-WP/3:

SECTION II

With the exception of Part 1:2.3 (Transport of dangerous goods by post), 7:4.4 (Reporting of dangerous goods accidents and incidents) and 8:1.1 (Provisions for dangerous goods carried by passengers or crew), Lithium ion cells and batteries packed with equipment offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

See paragraph 5.1.13 of this report:

Cells and batteries identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Lithium ion cells and batteries may be offered for transport if they meet the following:

- 1) for lithium ion cells, the Watt-hour rating (see the Glossary of Terms in Attachment 2) is not more than 20 Wh;
- 2) for lithium ion batteries, the Watt-hour rating is not more than 100 Wh;
 - the Watt-hour rating must be marked on the outside of the battery case except for those batteries manufactured before 1 January 2009;
- 3) each cell or battery is of the type proven to meet the requirements of each test in the *UN Manual of Tests and Criteria*, Part III, sub-section 38.3. However, batteries and cells manufactured before 1 January 2014 conforming to a design type tested according to the requirements of the fifth revised edition of the *UN Manual of Tests and Criteria*, Part III, sub-section 38.3 may continue to be transported;

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 4) cells and batteries must be manufactured under a quality management programme as described in 2:9.3.1 e).

General requirements

Batteries must be packed in strong outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1).

ADDITIONAL PACKING REQUIREMENTS

- Cells and batteries must be packed in inner packagings that completely enclose the cell or battery.
- Cells and batteries must be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to a short circuit.
- The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
- The maximum number of batteries in each package must be the minimum number required to power the equipment, plus two spares.
- Lithium ion cells or batteries must:
 - be placed in inner packagings that completely enclose the cell or battery then placed in a strong outer packaging; or
 - be placed in inner packagings that completely enclose the cell or battery, then placed with the equipment in a strong outer packaging.
- Each package of cells or batteries, or the completed package, must be capable of withstanding a 1.2 m drop test in any orientation without:
 - damage to cells or batteries contained therein;
 - shifting of the contents so as to allow battery to battery (or cell to cell) contact;
 - release of contents.
- Each package must be labelled with a lithium battery handling label (Figure 5-31).
- Each consignment must be accompanied with a document with an indication that:
 - the package contains lithium ion cells or batteries;
 - the package must be handled with care and that a flammability hazard exists if the package is damaged;
 - special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary;
 - a telephone number for additional information; and

See paragraph 5.1.12 of this report:

- the words "lithium ion batteries", "~~not restricted~~" and "~~in compliance with Section II of PI966~~" must be placed on the air waybill, when an air waybill is used.
- Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with their responsibilities.

OUTER PACKAGINGS*Boxes**Drums**Jerricans*

Strong outer packagings

See paragraph 5.1.5 of this report:

OVERPACKS

When packages are placed in an overpack, the lithium battery handling label required by this packing instruction must either be clearly visible or the label must be affixed on the outside of the overpack and the overpack must be marked with the word "Overpack".

Packing Instruction 967

Passenger and cargo aircraft for UN 3481 (contained in equipment) only

This entry applies to lithium ion or lithium polymer batteries contained in equipment.

Lithium Cells and batteries, identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Section I of this packing instruction applies to lithium ion and lithium polymer cells and batteries that are assigned to Class 9. Certain lithium ion and lithium polymer cells and batteries offered for transport and meeting the requirements of Section II of this packing instruction, subject to the paragraph above, are not subject to other additional requirements of these Instructions.

SECTION I

Section I requirements apply to each cell or battery type that has been determined to meet the criteria for assignment to Class 9.

See paragraph 5.1.13 of this report:

Each cell or battery must:

- 1) be of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3; ~~and~~

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 2) incorporate a safety venting device or be designed to preclude a violent rupture under conditions normally incident to transport and be equipped with an effective means of preventing external short circuits; and

- 3) be manufactured under a quality management programme as described in 2.9.3.1 e).

Each battery containing cells or a series of cells connected in parallel must be equipped with an effective means, as necessary, to prevent dangerous reverse current flow (e.g. diodes, fuses).

General requirements

Equipment must be packed in strong outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.9 (except 1.1.9.1).

See paragraph 3.2.12 of DGP/23-WP/3:

<u>Contents</u> <u>UN number and name</u>	<u>Net quantity per piece of equipment-Package quantity (Section I)</u>	
	<u>Passenger</u>	<u>Cargo</u>
<u>UN 3481 Lithium ion batteries contained in equipment</u>	<u>5 kg of lithium ion cells or batteries</u>	<u>35 kg of lithium ion cells or batteries</u>

ADDITIONAL PACKING REQUIREMENTS

- The equipment must be secured against movement within the outer packaging and be packed so as to prevent accidental operation during air transport.
- The equipment must be packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the battery is afforded equivalent protection by the equipment in which it is contained.
- Batteries manufactured after 31 December 2011 must be marked with the Watt-hour rating on the outside case.

OUTER PACKAGINGS*Boxes**Drums**Jerricans*

Strong outer packagings

 See paragraph 3.2.31 of DGP/23-WP/3:

SECTION II

With the exception of Part 1;2.3 (Transport of dangerous goods by post), 7;4.4 (Reporting of dangerous goods accidents and incidents) and 8;1.1 (Provisions for dangerous goods carried by passengers or crew), Lithium ion cells and batteries contained in equipment offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

 See paragraph 5.1.13 of this report:

Cells and batteries identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Lithium ion cells and batteries may be offered for transport if they meet the following:

- 1) for lithium ion cells ,the Watt-hour rating (see the Glossary of Terms in Attachment 2) is not more than 20 Wh;
- 2) for lithium ion batteries, the Watt-hour rating is not more than 100 Wh;
— the Watt-hour rating must be marked on the outside of the battery case except for those batteries manufactured before 1 January 2009;
- 3) each cell or battery is of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3. However, batteries and cells manufactured before 1 January 2014 conforming to a design type tested according to the requirements of the fifth revised edition of the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3 may continue to be transported;

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 4) cells and batteries must be manufactured under a quality management programme as described in 2:9.3.1 e).

Devices such as radio frequency identification (RFID) tags, watches and temperature loggers, which are not capable of generating a dangerous evolution of heat, may be transported when intentionally active. When active, these devices must meet defined standards for electromagnetic radiation to ensure that the operation of the device does not interfere with aircraft systems.

General requirements

Equipment must be packed in strong outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1).

ADDITIONAL PACKING REQUIREMENTS

- The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
- Cells and batteries must be protected so as to prevent short circuits.
- The equipment must be packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the battery is afforded equivalent protection by the equipment in which it is contained.
- Each package containing more than four cells or more than two batteries installed in equipment must be labelled with a lithium battery handling label (Figure 5-31) (except button cell batteries installed in equipment (including circuit boards)).
- Each consignment with packages bearing the lithium battery handling label must be accompanied with a document with an indication that:
 - the package contains lithium ion cells or batteries;
 - the package must be handled with care and that a flammability hazard exists if the package is damaged;
 - special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary;
 - a telephone number for additional information; and

See paragraph 5.1.12 of this report:

- the words "lithium ion batteries", "~~not restricted~~" and "in compliance with Section II of PI967" must be placed on the air waybill, when an air waybill is used.
- Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with their responsibilities.

OUTER PACKAGINGS*Boxes**Drums**Jerricans*

Strong outer packagings

See paragraph 5.1.5 of this report:

OVERPACKS

When packages are placed in an overpack, the lithium battery handling label required by this packing instruction must either be clearly visible or the label must be affixed on the outside of the overpack and the overpack must be marked with the word "Overpack".

Packing Instruction 968

Passenger and cargo aircraft for UN 3090

This entry applies to lithium metal or lithium alloy batteries in Class 9 (Section I) and lithium metal or lithium alloy batteries subject to specific requirements of these Instructions (Section II).

~~Lithium Cells~~ and batteries, identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

See paragraph 2.3.3 of this report:

Waste lithium batteries and lithium batteries being shipped for recycling or disposal are ~~prohibited~~ forbidden from air transport unless approved by the appropriate national authority of the State of Origin and the State of the Operator.

Section I of this packing instruction applies to lithium metal and lithium alloy cells and batteries that are assigned to Class 9. Certain lithium metal and lithium alloy cells and batteries offered for transport and meeting the requirements of Section II of this packing instruction, subject to the paragraphs above, are not subject to other additional requirements of these Instructions.

SECTION I

Section I requirements apply to each cell or battery type that has been determined to meet the criteria for assignment to Class 9.

See paragraph 5.1.13 of this report:

Each cell or battery must:

- 1) be of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, ~~sub-section~~ 38.3; ~~and~~

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 2) incorporate a safety venting device or be designed to preclude a violent rupture under conditions normally incident to transport and be equipped with an effective means of preventing external short circuits; ~~and~~

- 3) ~~be manufactured under a quality management programme as described in 2.9.3.1 e).~~

Each battery containing cells or a series of cells connected in parallel must be equipped with an effective means, as necessary, to prevent dangerous reverse current flow (e.g. diodes, fuses).

General requirements

Part 4;1 requirements must be met.

See paragraph 3.2.12 of DGP/23-WP/3:

Contents	Package quantity (Section I)	
	Passenger	Cargo
Lithium metal cells and batteries	2.5 kg	35 kg

See paragraph 2.5.1.9 of this report:

ADDITIONAL PACKING REQUIREMENTS

- Lithium metal cells and batteries must be protected against short circuits.
- Lithium metal cells and batteries must be placed in inner packagings that completely enclose the cell or battery then placed in an outer packaging. The completed package for the cells or batteries must meet the Packing Group II performance requirements.
- Lithium batteries with a mass of 12 kg or greater and having a strong, impact-resistant outer casing, or assemblies of such batteries, may be transported when packed in strong outer packagings, ~~and in~~ protective enclosures (e.g. in fully enclosed or wooden slatted crates) not subject to the requirements of Part 6 of these Instructions, if approved by the appropriate authority of the State of Origin. A copy of the document of approval must accompany the consignment.
- For lithium metal cells and batteries prepared for transport on passenger aircraft as Class 9:
 - Cells and batteries offered for transport on passenger aircraft must be packed in intermediate or outer rigid metal packaging.
 - Cells and batteries must be surrounded by cushioning material that is non-combustible and non-conductive, and placed inside an outer packaging.

See paragraph 2.5.1.1 of this report:

OUTER PACKAGINGS

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (1B2)	Aluminium (3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (3H2)
Natural wood (4C1, 4C2)	<u>Other metal (1N1)</u>	Steel (3A2)
<u>Other metal (4N)</u>	Plastics (1H2)	
Plastics (4H2)	Plywood (1D)	
Plywood (4D)	Steel (1A2)	
Reconstituted wood (4F)		
Steel (4A)		

See paragraph 3.2.31 of DGP/23-WP/3:

SECTION II

With the exception of Part 1;2.3 (Transport of dangerous goods by post), 7;4.4 (Reporting of dangerous goods accidents and incidents) and 8;1.1 (Provisions for dangerous goods carried by passengers or crew), Lithium metal or lithium alloy cells and batteries offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

See paragraph 5.1.13 of this report:

Cells and batteries identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Waste lithium batteries and lithium batteries being shipped for recycling or disposal are forbidden from air transport unless approved by the appropriate national authority of the State of Origin and the State of the Operator.

Lithium metal or lithium alloy cells and batteries may be offered for transport if they meet the following:

- 1) for a lithium metal cell, the lithium content is not more than 1 g;
- 2) for a lithium metal or lithium alloy battery, the aggregate lithium content is not more than 2 g;
- 3) each cell or battery is of the type proven to meet the requirements of each test in the *UN Manual of Tests and Criteria*, Part III, sub-section 38.3. However, batteries and cells manufactured before 1 January 2014 conforming to a design type tested according to the requirements of the fifth revised edition of the UN Manual of Tests and Criteria, Part III, sub-section 38.3 may continue to be transported;

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 4) cells and batteries must be manufactured under a quality management programme as described in 2;9.3.1 e).

General requirements

Batteries must be packed in strong outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1).

Contents	Package quantity (Section II)	
	Passenger	Cargo
Lithium metal cells and batteries	2.5 kg G	2.5 kg G

ADDITIONAL PACKING REQUIREMENTS

- Cells and batteries must be packed in inner packagings that completely enclose the cell or battery then placed in a strong outer packaging.
- Cells and batteries must be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to a short circuit.
- Each package must be capable of withstanding a 1.2 m drop test in any orientation without:
 - damage to cells or batteries contained therein;
 - shifting of the contents so as to allow battery to battery (or cell to cell) contact;
 - release of contents.
- Each package must be labelled with a lithium battery handling label (Figure 5-31).
- Each consignment must be accompanied with a document with an indication that:
 - the package contains lithium metal cells or batteries;
 - the package must be handled with care and that a flammability hazard exists if the package is damaged;
 - special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary;
 - a telephone number for additional information; and

See paragraph 5.1.12 of this report:

- the words “lithium metal batteries”, “~~not restricted~~” and “in compliance with Section II of PI968” must be placed on the air waybill, when an air waybill is used.
- Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with their responsibilities.

OUTER PACKAGINGS*Boxes**Drums**Jerricans*

Strong outer packagings

See paragraph 5.1.5 of this report:

OVERPACKS

When packages are placed in an overpack, the lithium battery handling label required by this packing instruction must either be clearly visible or the label must be affixed on the outside of the overpack and the overpack must be marked with the word “Overpack”.

Packing Instruction 969

Passenger and cargo aircraft for UN 3091 (packed with equipment) only

This entry applies to lithium metal or lithium alloy batteries packed with equipment.

~~Lithium Cells and~~ batteries, identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Section I of this packing instruction applies to lithium metal and lithium alloy cells and batteries that are assigned to Class 9. Certain lithium metal and lithium alloy cells and batteries offered for transport and meeting the requirements of Section II of this packing instruction, subject to the paragraph above, are not subject to other additional requirements of these Instructions.

SECTION I

Section I requirements apply to each cell or battery type that has been determined to meet the criteria for assignment to Class 9.

See paragraph 5.1.13 of this report:

Each cell or battery must:

- 1) be of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, ~~sub-section 38.3; -and~~

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 2) incorporate a safety venting device or be designed to preclude a violent rupture under conditions normally incident to transport and be equipped with an effective means of preventing external short circuits;

- 3) be manufactured under a quality management programme as described in 2.9.3.1 e).

Each battery containing cells or a series of cells connected in parallel must be equipped with an effective means, as necessary, to prevent dangerous reverse current flow (e.g. diodes, fuses).

General requirements

Part 4;1 requirements must be met.

See paragraph 3.2.12 of DGP/23-WP/3:

<i>Contents</i> <i>UN number and name</i>	<i>Package quantity</i> <i>(Section I)</i>	
	<i>Passenger</i>	<i>Cargo</i>
Quantity of lithium metal cells and batteries per overpack, excluding equipment <u>UN 3091 Lithium metal batteries packed with equipment</u>	<u>5 kg of lithium metal cells or batteries</u>	<u>35 kg of lithium metal cells or batteries</u>

ADDITIONAL PACKING REQUIREMENTS

- Lithium metal cells and batteries must be protected against short circuits.
- Lithium metal cells or batteries must:
 - be placed in inner packagings that completely enclose the cell or battery then placed in an outer packaging. The completed package for the cells or batteries must meet the Packing Group II performance requirements; or
 - be placed in inner packagings that completely enclose the cell or battery, then placed with equipment in a package that meets the Packing Group II performance requirements.
- The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
- Each completed package containing lithium cells or batteries must be marked and labelled in accordance with the applicable requirements of 5;1, 5;2 and 5;3.
- For the purpose of this packing instruction, “equipment” means apparatus requiring the lithium batteries with which it is packed for its operation.
- For lithium metal cells and batteries prepared for transport on passenger aircraft as Class 9:
 - Cells and batteries offered for transport on passenger aircraft must be packed in intermediate or outer rigid metal packaging surrounded by cushioning material that is non-combustible and non-conductive and placed inside an outer packaging.

OUTER PACKAGINGS

<i>Boxes</i>	<i>Drums</i>	<i>Jerricans</i>
Aluminium (4B)	Aluminium (1B2)	Aluminium (3B2)
Fibreboard (4G)	Fibre (1G)	Plastics (3H2)
Natural wood (4C1, 4C2)	Plastics (1H2)	Steel (3A2)
Plastics (4H2)	Plywood (1D)	
Plywood (4D)	Steel (1A2)	
Reconstituted wood (4F)		
Steel (4A)		

See paragraph 3.2.31 of DGP/23-WP/3:

SECTION II

With the exception of Part 1:2.3 (Transport of dangerous goods by post), 7:4.4 (Reporting of dangerous goods accidents and incidents) and 8:1.1 (Provisions for dangerous goods carried by passengers or crew), lithium metal cells and batteries packed with equipment offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

See paragraph 5.1.13 of this report:

Cells and batteries identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Lithium metal cells and batteries may be offered for transport if they meet the following:

- 1) for a lithium metal cell, the lithium content is not more than 1 g;
- 2) for a lithium metal or lithium alloy battery, the aggregate lithium content is not more than 2 g;
- 3) each cell or battery is of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3. However, batteries and cells manufactured before 1 January 2014 conforming to a design type tested according to the requirements of the fifth revised edition of the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3 may continue to be transported;

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 4) cells and batteries must be manufactured under a quality management programme as described in 2:9.3.1 e).

General requirements

Batteries must be packed in strong outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1).

ADDITIONAL PACKING REQUIREMENTS

- Cells and batteries must be packed in inner packagings that completely enclose the cell or battery.
- Cells and batteries must be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to a short circuit.
- The maximum number of batteries in each package must be the minimum number required to power the equipment, plus two spares.
- Lithium metal cells or batteries must:
 - be placed in inner packagings that completely enclose the cell or battery, then placed in a strong outer packaging; or
 - be placed in inner packagings that completely enclose the cell or battery, then placed with the equipment in a strong outer packaging.
- Each package of cells or batteries, or the completed package, must be capable of withstanding a 1.2 m drop test in any orientation without:
 - damage to cells or batteries contained therein;
 - shifting of the contents so as to allow battery to battery (or cell to cell) contact;
 - release of contents.
- Each package must be labelled with a lithium battery handling label (Figure 5-31).
- Each consignment must be accompanied with a document with an indication that:
 - the package contains lithium metal cells or batteries;
 - the package must be handled with care and that a flammability hazard exists if the package is damaged;
 - special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary;
 - a telephone number for additional information; and

See paragraph 5.1.12 of this report:

- the words “lithium metal batteries”, “~~not restricted~~” and “in compliance with Section II of PI969” must be placed on the air waybill, when an air waybill is used.
- Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with their responsibilities.

OUTER PACKAGINGS*Boxes**Drums**Jerricans*

Strong outer packagings

See paragraph 5.1.5 of this report:

OVERPACKS

When packages are placed in an overpack, the lithium battery handling label required by this packing instruction must either be clearly visible or the label must be affixed on the outside of the overpack and the overpack must be marked with the word “Overpack”.

Packing Instruction 970

Passenger and cargo aircraft for UN 3091 (contained in equipment) only

This entry applies to lithium metal or lithium alloy batteries contained in equipment.

~~Lithium Cells and~~ batteries, identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Section I of this packing instruction applies to lithium metal and lithium alloy cells and batteries that are assigned to Class 9. Certain lithium metal and lithium alloy cells and batteries offered for transport and meeting the requirements of Section II of this packing instruction, subject to the paragraph above, are not subject to other additional requirements of these Instructions.

SECTION I

Section I requirements apply to each cell or battery type that has been determined to meet the criteria for assignment to Class 9.

See paragraph 5.1.13 of this report:

Each cell or battery must:

- 1) be of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, ~~sub-section 38.3; and~~

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 2) incorporate a safety venting device or be designed to preclude a violent rupture under conditions normally incident to transport and be equipped with an effective means of preventing external short circuits; ~~and~~

- 3) be manufactured under a quality management programme as described in 2.9.3.1 e).

Each battery containing cells or a series of cells connected in parallel must be equipped with an effective means, as necessary, to prevent dangerous reverse current flow (e.g. diodes, fuses).

General requirements

Equipment must be packed in strong outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1).

See paragraph 3.2.12 of DGP/23-WP/3:

Package contents UN number and name	Not quantity per piece of equipment- Package quantity (Section I)	
	Passenger	Cargo
Lithium metal batteries <u>UN 3091 Lithium metal batteries contained in equipment</u>	5 kg of lithium metal cells or batteries	35 kg of lithium metal cells or batteries

ADDITIONAL PACKING REQUIREMENTS

- The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
- The equipment must be packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the battery is afforded equivalent protection by the equipment in which it is contained.
- The quantity of lithium metal contained in any piece of equipment must not exceed 12 g per cell and 500 g per battery.

OUTER PACKAGINGS*Boxes**Drums**Jerricans*

Strong outer packaging

 See paragraph 3.2.31 of DGP/23-WP/3:

SECTION II

With the exception of Part 1;2.3 (Transport of dangerous goods by post), 7;4.4 (Reporting of dangerous goods accidents and incidents) and 8;1.1 (Provisions for dangerous goods carried by passengers or crew), lithium metal cells and batteries contained in equipment offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

 See paragraph 5.1.13 of this report:

Cells and batteries identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Lithium metal cells and batteries may be offered for transport if they meet the following:

- 1) for a lithium metal cell, the lithium content is not more than 1 g;
- 2) for a lithium metal or lithium alloy battery, the aggregate lithium content is not more than 2 g.
- 3) each cell or battery is of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3. However, batteries and cells manufactured before 1 January 2014 conforming to a design type tested according to the requirements of the fifth revised edition of the UN *Manual of Tests and Criteria*, Part III, sub-section 38.3 may continue to be transported;

Note.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

- 4) cells and batteries must be manufactured under a quality management programme as described in 2;9.3.1 e).

Devices such as radio frequency identification (RFID) tags, watches and temperature loggers, which are not capable of generating a dangerous evolution of heat, may be transported when intentionally active. When active, these devices must meet defined standards for electromagnetic radiation to ensure that the operation of the device does not interfere with aircraft systems.

General requirements

Equipment containing batteries must be packed in strong outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1).

ADDITIONAL PACKING REQUIREMENTS

- The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
- Cells and batteries must be protected so as to prevent short circuits.
- The equipment must be packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the battery is afforded equivalent protection by the equipment in which it is contained.
- Each package containing more than four cells or more than two batteries installed in equipment must be labelled with a lithium battery handling label (Figure 5-31) (except button cell batteries installed in equipment (including circuit boards)).
- Each consignment with packages bearing the lithium battery handling label must be accompanied with a document with an indication that:
 - the package contains lithium metal cells or batteries;
 - the package must be handled with care and that a flammability hazard exists if the package is damaged;
 - special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary;
 - a telephone number for additional information; and

See paragraph 5.1.12 of this report:

- the words "lithium metal batteries", "~~not restricted~~" and "in compliance with Section II of PI970" must be placed on the air waybill, when an air waybill is used.
- Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with their responsibilities.

OUTER PACKAGINGS*Boxes**Drums**Jerricans*

Strong outer packagings

See paragraph 5.1.15 of this report:

OVERPACKS

When packages are placed in an overpack, the lithium battery handling label required by this packing instruction must either be clearly visible or the label must be affixed on the outside of the overpack and the overpack must be marked with the word "Overpack".

APPENDIX B

PROPOSED ADDITION OF PROVISIONS FOR THE CARRIAGE OF DANGEROUS GOODS ON HELICOPTERS IN THE TECHNICAL INSTRUCTIONS FOR THE SAFE TRANSPORT OF DANGEROUS GOODS BY AIR

Part 1

GENERAL

Chapter 1

SCOPE AND APPLICABILITY

...

See paragraph 5.3.1 of this report:

1.1 GENERAL APPLICABILITY

1.1.1 These *Technical Instructions for the Safe Transport of Dangerous Goods by Air*, referred to herein as the "Instructions", prescribe the detailed requirements applicable to the international civil transport of dangerous goods by air by any aircraft (including both internal and external carriage). Any addenda to this edition of the ICAO *Technical Instructions for the Safe Transport of Dangerous Goods by Air* issued by ICAO constitute part of these Instructions.

...

1.1.4 For the State of overflight, if none of the criteria for granting an exemption are relevant, an exemption may be granted based solely on whether it is believed that an equivalent level of safety in air transport has been achieved.

...

Note 5.— Due to the differences in the type of operations carried out by helicopters compared with aeroplanes, some additional considerations need to be made when dangerous goods are carried by helicopter, as described in 7.7.

1.1.4.5 General exceptions

1.1.4.5.1 Except for 7.4.2, these Instructions do not apply to dangerous goods carried ~~on~~ by an aircraft where the dangerous goods are:

...

- c) for dropping in connection with agricultural, horticultural, forestry, avalanche control or pollution control activities;

Renumber paragraphs 1.1.4.2, 1.1.4.3 and 1.1.4.4 accordingly.

...

Chapter 3

GENERAL INFORMATION

Parts of this Chapter are affected by State Variation BE 1; see Table A-1

3.1 DEFINITIONS

...

External carriage. Any load suspended from a helicopter or in equipment attached to a helicopter.

...

Part 4

PACKING INSTRUCTIONS

INTRODUCTORY NOTES

...

Note 11.— Open external carriage

When dangerous goods are prepared for open external carriage (e.g. suspended from a helicopter or in open external carrying devices), consideration should be given to the type of packaging used and protection of those packagings where necessary from the effects of airflow and weather (e.g. by damage from rain or snow).

...

Part 7

OPERATOR'S RESPONSIBILITIES

Chapter 1

ACCEPTANCE PROCEDURES

...

Chapter 2

STORAGE AND LOADING

...

2.1.3 For additional requirements concerning the loading of dangerous goods for carriage by helicopters, see Part 7;7.

...

...

2.4 LOADING AND SECURING OF DANGEROUS GOODS

2.4.1 Loading ~~on~~ of cargo aircraft

...

2.4.1.1 Packages or overpacks of dangerous goods bearing the “Cargo aircraft only” label must be loaded ~~on~~ for carriage by a cargo aircraft in accordance with one of the following provisions:

- a) in a Class C aircraft cargo compartment; or
- b) in a unit load device equipped with a fire detection/suppression system equivalent to that required by the certification requirements of a Class C aircraft cargo compartment as determined by the appropriate national authority (a ULD that is determined by the appropriate national authority to meet the Class C aircraft cargo compartment standards must include “Class C compartment” on the ULD tag); or
- c) in such a manner that in the event of an emergency involving such packages or overpacks, a crew member or other authorized person can access those packages or overpacks, and can handle and, where size and mass permit, separate such packages or overpacks from other cargo; or
- d) external carriage by a helicopter; or
- e) with the approval of the State of the Operator, for helicopter operations, in the cabin (see Part S-7:2.4 of the Supplement).

...

Chapter 4

PROVISION OF INFORMATION

4.1 INFORMATION TO THE PILOT-IN-COMMAND

See paragraph 3.5.11 of DGP/23-WP/2 and paragraph 5.5.1 of this report:

4.1.1 As early as practicable before departure of the aircraft, but in no case later than when the aircraft moves under its own power, ~~the~~ the operator of an aircraft in which dangerous goods are to be carried must:

- a) ~~provide~~ the pilot-in-command, ~~as early as practicable before departure of the aircraft,~~ with accurate and legible written or printed information concerning dangerous goods that are to be carried as cargo; and
- b) ~~from 1 January 2014, provide personnel with responsibilities for operational control of the aircraft (e.g. the flight operations officer, flight dispatcher, or designated ground personnel responsible for flight operations) with the same information that is required to be provided to the pilot-in-command (e.g. a copy of the written information provided to the pilot-in-command). Each operator must specify the personnel (job title or function) to be provided this information in their operations manual and/or other appropriate manuals.~~

See paragraph 5.3.1 of this report:

For helicopter operations, with the approval of the State of the Operator, the notification to the pilot-in-command may be abbreviated or be by other means (e.g. radio communication, as part of the working flight documentation such as a journey log or operational flight plan) where circumstances make it impractical to produce written or printed information or on a dedicated form (see Part S-7:4.8 of the Supplement).

See paragraph 5.5.1 of this report:

Note 1.— This includes information about dangerous goods loaded at a previous departure point and which are to be carried on a subsequent flight.

Note 2.— Information required under 4.1.1 b) should be readily available to the operator's personnel whose responsibilities most closely align with the duties of the flight operations officer/flight dispatcher described in Annex 6, Part I, Chapter 4.6. These personnel are intended to provide the information required by Part 7:4.6 to facilitate emergency response.

Note 3.— The provision in 4.1.1 b) is recommended until 1 January 2014 when it will become mandatory.

...

See paragraph 5.3.1 of this report:

4.84.9 EMERGENCY RESPONSE INFORMATION

The operator must ensure that for consignments for which a dangerous goods transport document is required by these Instructions, appropriate information is immediately available at all times for use in emergency response to accidents and incidents involving dangerous goods in air transport. The information must be available to the pilot-in-command and can be provided by:

- a) the ICAO document *Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods* (Doc 9481); or
- b) any other document which provides ~~similar~~ appropriate information concerning the dangerous goods on board.

...

Chapter 7

HELICOPTER OPERATIONS

Note.— The requirements in this chapter are in addition to the other provisions of the Technical Instructions that apply to all operators (e.g. Part 7 and Part 1:4).

7.1.1 Due to the differences in the type of operations carried out by helicopters compared with aeroplanes, there may be circumstances when the full provisions of the Technical Instructions are not appropriate or necessary, due to the operations involving un-manned sites, remote locations, mountainous areas or construction sites etc. In such circumstances and when appropriate, the State of the Operator may grant an approval in order to permit the carriage of dangerous goods without all of the normal requirements of the Technical Instructions being fulfilled. When States other than the State of the Operator have notified ICAO that they require prior approval of such operations, approval must also be obtained from the States of Origin and destination, as appropriate.

7.1.2 When loading dangerous goods for open external carriage by a helicopter, consideration should also be given to the type of packaging used and to the protection of those packagings, where necessary, from the effects of airflow and weather (e.g. by damage from rain or snow), in addition to the general loading provisions of 7:2.

7.1.3 When dangerous goods are carried suspended from a helicopter, the operator must ensure that consideration is given to the dangers of static discharge upon landing or release of the load.

7.1.4 When helicopters are carrying passengers, in accordance with Part S-7:2.2.4 of the Supplement, the State of the Operator may grant an approval to permit the carriage of dangerous goods either:

- a) in the cabin, when those dangerous goods are associated with and accompanied by the passengers; or
- b) in cargo compartments that do not meet the requirements of Part 7:2.1.1.

APPENDIX C

PROPOSED ADDITION OF PROVISIONS FOR THE CARRIAGE OF DANGEROUS GOODS ON HELICOPTERS IN SUPPLEMENT TO THE TECHNICAL INSTRUCTIONS FOR THE SAFE TRANSPORT OF DANGEROUS GOODS BY AIR

Part S-7

STATE'S RESPONSIBILITIES

...

Chapter 2

STORAGE AND LOADING

...

2.2 LOADING ON PASSENGER AIRCRAFT

...

2.2.3 Where a packing group is assigned, the dangerous goods in 2.2.2 are restricted to those in Packing Group III only.

See paragraph 5.3.1 of this report:

2.2.4 For helicopter operations, the State of the Operator may approve the carriage of dangerous goods permitted for carriage on a passenger aircraft other than those in 2.2.2 and 2.2.3. When such an approval is to be granted, States should consider the factors that may mean carriage within the cabin is required or preferable such as the size/mass of packages making it impractical to carry them as an external load, accessibility to the packages and duration of the flight. When States other than the State of the Operator have notified ICAO that they require prior approval of such operations, approval must also be obtained from the States of origin and destination, as appropriate.

...

2.4 CARRIAGE OF CARGO AIRCRAFT ONLY DANGEROUS GOODS BY HELICOPTERS IN THE CABIN

2.4.1 Packages bearing the "Cargo aircraft only" label may be carried in the cabin of a helicopter operating as a cargo aircraft, with the approval of the State of the Operator.

2.4.2 When granting such an approval, States should consider:

a) the types and quantity of dangerous goods involved;

b) the types of packaging used;

c) the duration of the flight(s);

d) the types of operation; and

e) the ability to land quickly in the event of an emergency, etc.

...

Chapter 4

PROVISION OF INFORMATION

4.8 INFORMATION TO THE PILOT-IN-COMMAND FOR HELICOPTER OPERATIONS

4.8.1 Part 7:4.1.1 of the Technical Instructions provides that, with the approval of State of the Operator, where circumstances make it impractical to produce written or printed information or on a dedicated form, the notification to the pilot-in-command may be abbreviated or be by other means (e.g. radio communication, as part of the working flight documentation such as a journey log or operational flight plan etc). Examples of such circumstances include:

a) when the helicopter does not land in order to pick up the dangerous goods such that it is not possible to provide written information at that location;

b) where the helicopter is in-flight and the planned load is changed prior to being picked up without the helicopter landing;

c) when short, repetitive flights or a series of flights from different locations are undertaken by a helicopter where it is impractical to provide separate written information for each flight;

d) where dangerous goods are picked up from an un-manned site.

4.8.2 When granting such an approval, States should consider all of the circumstances under which the approval is being sought, the minimum information that should be provided to the pilot-in-command and the procedures that the operator would implement to ensure that the information is provided and recorded.

...

APPENDIX D

**PROPOSED AMENDMENTS TO PROVISIONS RELATED TO
NOTIFICATION TO THE PILOT-IN-COMMAND PROVISIONS IN THE
TECHNICAL INSTRUCTIONS FOR THE SAFE TRANSPORT OF
DANGEROUS GOODS BY AIR**

Part 7

OPERATOR'S RESPONSIBILITIES

...

Chapter 4

PROVISION OF INFORMATION

4.1 INFORMATION TO THE PILOT-IN-COMMAND

See paragraph 3.5.11 of DGP/23-WP/2 and paragraph 5.5.1 of this report:

4.1.1 As early as practicable before departure of the aircraft, but in no case later than when the aircraft moves under its own power, the operator of an aircraft in which dangerous goods are to be carried must:

- a) provide the pilot-in-command, as early as practicable before departure of the aircraft, with accurate and legible written or printed information concerning dangerous goods that are to be carried as cargo; and
- b) from 1 January 2014, provide personnel with responsibilities for operational control of the aircraft (e.g. the flight operations officer, flight dispatcher, or designated ground personnel responsible for flight operations) with the same information that is required to be provided to the pilot-in-command (e.g. a copy of the written information provided to the pilot-in-command). Each operator must specify the personnel (job title or function) to be provided this information in their operations manual and/or other appropriate manuals.

...

Note 1.— This includes information about dangerous goods loaded at a previous departure point and which are to be carried on a subsequent flight.

Note 2.— Information required under 4.1.1 b) should be readily available to the operator's personnel whose responsibilities most closely align with the duties of the flight operations officer/flight dispatcher described in Annex 6, Part I, Chapter 4.6. These personnel are intended to provide the information required by Part 7.4.6 to facilitate emergency response.

Note 3.— The provision in 4.1.1 b) is recommended until 1 January 2014 when it will become mandatory.

...

4.1.7 A legible copy of the information provided to the pilot-in-command must be retained on the ground. This copy must have an indication on it, or with it, that the pilot-in-command has received the information. ~~This~~ A copy, or the information contained in ~~it~~ the notice-to-the pilot-in-command, must be readily accessible to the ~~aerodromes of last departure and next scheduled arrival point, until after the flight to which the information refers~~ flight operations officer, flight dispatcher, or designated ground personnel responsible for flight operations until after the arrival of the flight.

APPENDIX E

**COMPETENCY-BASED TRAINING AND ASSESSMENT FOR
DANGEROUS GOODS PERSONNEL**

Add the following new section 4.4 to Part 1, Chapter 4 (Training) of the Technical Instructions:

Part 1

GENERAL

...

Chapter 4

TRAINING

...

See paragraph 5.7.1 of this report:

4.4 COMPETENCY-BASED TRAINING AND ASSESSMENT

Competency-based training and assessment should be used in accordance with the general provisions contained in Chapter 2 of the *Procedures for Air Navigation Services — Training (PANS-TRG, Doc 9868)*.

ATTACHMENT A

COMPETENCY FRAMEWORK FOR STATE EMPLOYEES INVOLVED IN THE REGULATION AND OVERSIGHT OF TRANSPORT OF DANGEROUS GOODS BY AIR

See paragraph 5.7.1 of this report:

1.1 INTRODUCTION

1.1.1 The objective of this chapter is to provide guidance to States in implementing competency-based training and assessment for personnel engaged in policies, regulation, inspection and supervision of work related to the transport of dangerous goods by air. It includes a competency framework for the uniform implementation of training and assessment required for State employees who must ensure compliance with their State's obligations and with Annex 18 — *The Safe Transport of Dangerous Goods by Air*.

1.1.2 It is noted that States use a variety of systems to exercise safety oversight in the transport of dangerous goods by air. ICAO's safety oversight audits have identified discrepancies among States in their inspectors' performance standards and in the implementation of their respective civil aviation dangerous goods programmes. For example, one State may have a clearly-defined process for the approval of dangerous goods training programmes while another may not. Applying a common competency framework would result in harmonized performance standards of State employees.

1.1.3 A generic competency framework for State employees is at Attachment I to this chapter. This competency framework reflects safety-critical tasks and, when applied, will have a positive impact on specific dangerous goods functions and the ability of individuals to perform their jobs successfully and to the required standards. Each State must provide specific training for these functions to each of its employees involved in policy making, regulation and oversight of compliance of dangerous goods transported by air.

1.2 TERMINOLOGY

For the purpose of this chapter, the following terminology applies:

Air operator certificate. A certificate authorizing an operator to carry out specified civil air transport operations.

Competency. A combination of skills, knowledge and attitudes required to perform a task to the prescribed standard.

Competency-based training and assessment. Training and assessment that are characterized by a performance orientation, emphasis on standards of performance and their measurement, and the development of training to the specified performance standards.

Competency element. An action that constitutes a task that has a triggering event and a terminating event that clearly defines its limits, and an observable outcome.

Competency unit. A discrete function consisting of a number of competency elements.

Dangerous goods. Articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods in the Technical Instructions or which are classified according to those Instructions.

Inspection method. Techniques that are used during the course of evaluating compliance with relevant regulations. The inspection methods include:

- a) observation: visually observing the performance of regulatory requirements for compliance with relevant regulations;
- b) interview: a technique by which questions or discussions with persons performing transportation functions are used to gather information concerning the transportation of dangerous goods;
- c) document review: reviewing paper or electronic records to determine whether required documents are properly prepared, contain accurate information, and maintained as required by the regulations;
- d) verification: using third party information to independently confirm whether regulatory requirements are being met; and
- e) procedure evaluation: ensuring appropriate written procedures, addressing all regulated activities undertaken, are in place.

Operations manual. A manual containing procedures, instructions and guidance for use by operational personnel in the execution of their duties.

Operator. A person, organization or enterprise engaged in or offering to engage in an aircraft operation.

Performance criteria. Simple, evaluative statements on the required outcome of the competency element and a description of the criteria used to judge whether the required level of performance has been achieved.

Shipper. A person, organization or enterprise undertaking any of the shipper's responsibilities of Part 5 of the Technical Instructions.

COMPETENCY FRAMEWORK FOR STATE EMPLOYEES

1. SCOPE OF THE COMPETENCY FRAMEWORK

The scope of the competency framework concerns State employees involved in the regulation and oversight of the transport of dangerous goods by air based on obligations of States according to the Convention on International Civil Aviation:

- a) the State is responsible for implementing a system for determining compliance with Annex 18;
- b) the application of the basic principles of a competency-based approach determines the performance level for State employees in carrying out their function to meet the State's obligations as defined by the Annex 18;

The competency framework has taken into account the "ICAO Safety Oversight Transport of Dangerous Goods Audit Checklist", itemizing the separate civil aviation dangerous goods programme activities required by a State:

- a) conduct initial review and approval of an operation manual and training programme on dangerous goods within the approval procedures for the AOC;
- b) conduct initial inspection of new operator or operator that intends to commence carriage of dangerous goods;
- c) conduct periodic inspection of the operator;
- d) conduct an ad-hoc inspection on dangerous shipping and handling procedures
- e) conduct an investigation on dangerous goods incidents and dangerous goods occurrences resulting from violations of the dangerous goods regulations;
- f) conduct a review of a revised operation manual on dangerous goods within the approval procedures for the AOC;
- g) conduct a review of a revised training programme for approval;
- h) conduct periodic inspection of shippers; and
- i) ensure that technical equipment required for inspection is being maintained and/or calibrated.

These activities have been included in the competency framework.

The details of the competency framework are based on common practices as applied by a number of States on training, operational procedures for inspection, surveillance and enforcement.

2. STRUCTURE OF THE DOCUMENT

Distinction is made between competencies of a "general nature" which are applicable to all State employees and competencies related to the actual "technical performance" of a State employee in relation to their specific tasks.

For task-related competencies, the basic competency framework is structured according to three levels defined in the *Procedures for Air Navigation Services — Training* (PANS-TRG, Doc 9868): competency units, competency elements, and performance criteria. Further detailing at these three levels is derived from job and task analyses of common practices in some States.

Regarding the responsibilities of State employees and the principles applicable to the definition of the competency framework, distinction has been made between different functional levels: strategic, managerial and operational.

Taking into account the above, the competency framework for State employees is based on:

- a) Core competencies applicable to all State employees:
 - core competencies and personal attributes; and
 - general awareness, knowledge and skills;
- b) Competency units related to specific activities of State employees:

- establishing and maintaining dangerous goods oversight programmes;
- conducting inspections for the certification/approval of an operator;
- conducting inspections of operators;
- conducting Inspections of dangerous goods shipper; and
- conduct investigations,

3. CORE COMPETENCIES APPLICABLE TO ALL STATE EMPLOYEES

Core competencies have not yet been identified for State employees. This will be done once the work of the Next Generation of Aviation Professionals Task Force progresses its work and provides a standardized basis from which to work.

5. COMPETENCIES RELATED TO SPECIFIC ACTIVITIES OF STATE EMPLOYEES

Dangerous goods are articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods in the Technical Instructions or which are classified according to those Instructions. The transport of dangerous goods is recognized as an integral part of a State's overall safety oversight programme. Each State must provide training to each of its dangerous goods employees which emphasizes a State's specific dangerous goods standards and regulations. Training should be designed so that it enables all State employees involved in dangerous goods oversight to perform their tasks. In the same manner in which States require industries performing dangerous goods related functions to be trained in the transport of dangerous goods, States should provide their employees with training commensurate with their responsibilities. Table S-1-1 identifies competencies related to the specific activities conducted by dangerous goods State employees.

Table S-1-1. Competency units, competency elements and performance criteria related to specific activities of State employees

<i>Competency element</i>	<i>Performance criteria</i>	<i>Reference</i>
1. Competency unit: Establish and maintain dangerous goods oversight programme		
Each State shall take the necessary measures to achieve compliance with Annex 18 and the detailed provisions contained in the Technical Instructions.		
The competency elements and related performance criteria at regulatory, policy and management level are as follows:		
Promulgate and maintain dangerous goods regulations	<ul style="list-style-type: none"> — ensure national dangerous goods regulations are complete and up-to-date — establish exemption and approval procedures — establish procedures for approving operations specifications for the transport of dangerous goods — establish regulations for oversight of shippers of dangerous goods — establish regulations for oversight of operators for dangerous goods responsibilities — participate with international rule making bodies as appropriate to support national safety programme — Initiate amendments to national dangerous goods regulations to implement changes to Standards and Recommended Practices (SARPs) and regulations. 	Annex 18, paragraph 2.7: National authority Each Contracting State shall designate and specify to ICAO an appropriate authority within its administration to be responsible for ensuring compliance with this Annex.

<i>Competency element</i>	<i>Performance criteria</i>	<i>Reference</i>
Establish and maintain dangerous goods oversight programmes	<ul style="list-style-type: none"> — develop dangerous goods programme policy process — develop risk-based inspection programme — establish inspection procedures and process — develop, implement and maintain inspection protocols and tools — develop compliance and enforcement programme and process — develop a framework for an education programme which includes response to public requests for advice and guidance — support dangerous goods related research and development — develop, implement and maintain initial and recurrent training programme for dangerous goods personnel — develop and maintain performance plans and objectives for dangerous goods personnel — develop and maintain occupational safety programme 	
Conduct planning and organization	<ul style="list-style-type: none"> — coordinate inspections programme — establish priorities (risk-based approach) — establish inspection procedures — establish exemption and approval procedures — coordinate input by staff into dangerous goods policies — develop a framework for an education programme and response to requests for advice and guidance 	<p>Annex 18 Paragraph 2.1: “...States concerned may grant an exemption from the provisions of the Technical Instructions...”</p> <p>Paragraph 2.5 Notification of variations from the Technical Instructions</p>
Special operations	<ul style="list-style-type: none"> — exercise sound judgment in granting of exemptions and approvals — determine suitability of an operator or shipper to be granted an exemption or approval — use judgment to detain an aircraft when appropriate 	<p>Annex 18 Paragraph 2.2.1: Each Contracting State shall take the necessary measures to achieve compliance with the detailed provisions contained in the Technical Instructions.</p>

2. Competency unit: Conduct inspection for certification/approval of an operator

An operator engaged in commercial operations needs an air operators certificate (AOC) issued by the State of the Operator. The AOC certification process for all operators includes elements related to dangerous goods (e.g. approval of training programmes and operations manual) to minimize the likelihood of safety being compromised by non-compliance with the requirements. Operators who wish to carry dangerous goods as cargo are subject to additional authorization, which is dependent on enhanced operational manuals and training programmes with adequate processes and procedures in place to ensure compliance with the requirements of the Technical Instructions.

Note.— Non-AOC operators are also subject to these requirements.

Review of the application and the operations manual	<p>Verify:</p> <ul style="list-style-type: none"> — the identification of the applicant (air operators certificate and authorized operations/limitations) — completion of appropriate application forms — clarification of administrative details of the approval process — dangerous goods acceptance, handling, loading, inspection and transport procedures — dangerous goods documentation management — reporting procedures of dangerous goods incidents/accidents and undeclared or misdeclared dangerous goods — emergency response procedures during ground handling and notification to emergency services — emergency response guidance for incidents during flight and notification to ATC 	<p>Annex 6 Paragraph 4.2: Operational certification and supervision CAO audit checklist: Conduct an initial inspection of a new operator or an operator intending to commence carriage of dangerous goods.</p>
---	---	--

Competency element	Performance criteria	Reference
	<ul style="list-style-type: none"> — adequacy and operation of the internal quality monitoring system to ensure compliance with the Technical Instructions 	
Approve operations manual	<ul style="list-style-type: none"> — reviewing and approving the operations manual associated procedures and supporting documents 	""
Inspect facilities	<p>Conduct an inspection to verify:</p> <ul style="list-style-type: none"> — the application by the operator's staff of the dangerous goods procedures for acceptance, handling, loading, inspection and transport — familiarization of the operator's staff accepting and handling the dangerous goods consignments and associated documents 	Technical Instructions Chapter 7: Operators responsibilities
Evaluate and approve training programmes	<ul style="list-style-type: none"> — assess the operator's initial and recurrent training programme for aircrew, employees and agents against the requirements of the Technical Instructions — assess the program's continuous evaluation and update process as appropriate due to changes in the Technical Instructions, operations manual and dangerous goods procedures — assess the dangerous goods instructor's qualification against TI requirements 	Technical Instructions Paragraph 4.1: Establishment of training programmes Paragraph 4.1.2: Review by State authorities
Provide recommendation report	Provide a recommendation for issuing certificate/approval	

3. Competency unit: Conduct Inspection of an Operator

A State must inspect operators as part of routine surveillance and/or based upon non-compliance, trend analysis or safety concerns.

Note.— Inspections may take place at facilities located on or off the airport and at those entities acting on behalf of the operator.

For each of the following competency elements and performance criteria, the inspector will utilize the applicable inspection method.

Conduct pre-inspection process	<ul style="list-style-type: none"> — collect information on dangerous goods-related activities of an Operator — analyze information on dangerous goods related activities of an Operator — organize inspection activities 	<p>Annex 18 Paragraph 11.1: Inspection systems:</p> <p>Each Contracting State shall establish inspection, surveillance and enforcement procedures with a view to achieving compliance with its dangerous goods regulations.</p> <p>Annex 18 Chapter 8: Operators responsibilities</p>
Conduct inspection process	<ul style="list-style-type: none"> — conduct opening briefing — evaluate compliance with: <ul style="list-style-type: none"> — shipping and transporting aircraft spares and their replacements <p><i>Note.— A shipper inspection is to be conducted on such activity.</i></p> <ul style="list-style-type: none"> — limitation of dangerous goods on aircraft — general applicability — acceptance procedure requirements 	""

<i>Competency element</i>	<i>Performance criteria</i>	<i>Reference</i>
	<ul style="list-style-type: none"> — storage and loading requirements — inspection and decontamination requirements — provision of information requirements — provisions concerning passengers and crew — provisions for dangerous goods carried by passengers and crew — Provisions to aid recognition of undeclared dangerous goods — Conduct closing briefing 	
Conduct post inspection process	<ul style="list-style-type: none"> — Record inspection result — Determine follow up action 	""

4. Competency unit: Conduct Inspection of Dangerous Goods Shipper

A State must inspect shippers as part of routine surveillance and/or based upon non-compliance, trend analysis or safety concerns. A shipper may be an individual person (e.g. sending a package via a courier company) or a large company (e.g. chemical supplier, operator, repair station or freight forwarder shipping dangerous goods).

For each of the following competency elements and performance criteria, the inspector will utilize the applicable inspection method.

Conduct pre-inspection process	<ul style="list-style-type: none"> — collect information on dangerous goods activities of shipper — analyze information on dangerous goods activities of shipper — organize inspection activities 	Annex 18 Paragraph 11.1 Inspection systems: Each Contracting State shall establish inspection, surveillance and enforcement procedures with a view to achieving compliance with its dangerous goods regulations. Annex 18 Chapter 7 Shippers responsibilities ICAO audit checklist: Conduct an ad-hoc assessment on dangerous shipping and handling procedures of operators
Conduct inspection process	<ul style="list-style-type: none"> — conduct opening briefing — evaluate compliance with: <ul style="list-style-type: none"> — provision of information to employees requirements — training requirements — classification requirements — documentation requirements — packaging requirements — labeling requirements — marking requirements — unit load device loading requirements, as applicable — conduct closing briefing 	""
Conduct post inspection process	<ul style="list-style-type: none"> — record inspection result — determine follow-up action 	""

5. Competency unit: Conduct Investigation

With the aim of preventing the recurrence of non-compliances with the Technical Instructions which occur in its territory and which involve the transport of dangerous goods originating in or destined for another State, States must establish procedures for the investigation of:

- dangerous goods accidents;
- dangerous goods incidents;
- discoveries of undeclared or mis-declared dangerous goods; and
- discoveries of dangerous goods in baggage which are not permitted

As part of a State's enforcement obligation, procedures must also be established for the investigation of other non-compliances (e.g. when discovered during an inspection).

The competency elements and related performance criteria are defined as follows:

<p>Conduct pre-investigation process</p>	<ul style="list-style-type: none"> — collect information on dangerous goods related activities of an operator — analyze information on dangerous goods related activities of an operator — analyze event against regulatory framework — organize investigation — identify resources required 	<p>Annex 18 Paragraph 12.1: Contracting State shall establish procedures for investigating and compiling Information of dangerous goods incidents.</p> <p>ICAO audit checklist: Conduct an investigation on dangerous goods incidents and dangerous goods occurrences resulting from violations of the dangerous goods regulations;</p> <p>Annex 18 Paragraph 9.6: Provision of information in event of an aircraft accident or incident</p>
<p>Conduct investigation process</p>	<ul style="list-style-type: none"> — conduct interviews — collect evidence — assess evidence — document investigation — recommend corrective action 	<p>""</p>

ATTACHMENT B**COMPETENCY-BASED TRAINING AND ASSESSMENT FOR
PERSONNEL OF ORGANISATIONS ENGAGED IN OFFERING
DANGEROUS GOOD FOR TRANSPORT BY AIR AND/OR PROVIDING
SERVICES FOR ARRANGING SUCH TRANSPORT**

See paragraph 5.7.1 of this report:

1 INTRODUCTION

1.1.1 The objective of ICAO in publishing this document is to provide guidance to Contracting States, to implement competency-based training and assessment for personnel of organizations engaged in offering dangerous goods for transport by air and/or providing services for arranging such transport. This document has been prepared by the Dangerous Goods Panel (DGP). It includes a basic competency framework for the uniform implementation of training required for Shippers to ensure compliance with their obligations with respect to Annex 18 — *The Safe Transport of Dangerous Goods by Air* and the detailed specifications in the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284). Requirements for the establishment of training programmes for employees engaged in the transport of dangerous goods, having a safety critical function, are contained in the Technical Instructions, Part 1, Chapter 4.

1.1.3 In order to harmonize performance standards of shippers, there is a need to develop a generic competency framework for their employees involved in preparing dangerous good to be offered for transport by air. In turn, this will have a positive impact on the specific employee's function and the ability of the individual to perform the job successfully to the required standards. Whether or not a person is categorized as a shipper is determined by the tasks they perform.

2. TERMINOLOGY

For the purpose of this document, the following terminology applies:

Air operator certificate. A certificate authorizing an operator to carry out specified civil air transport operations.

Appropriate national authority. Any authority designated, or otherwise recognized, by a State to perform specific functions related to Annex 18 or the Technical Instructions.

Cargo aircraft. Any aircraft, other than a passenger aircraft, which is carrying goods or property.

Competency. A combination of skills, knowledge and attitudes required to perform a task to the prescribed standard.

Competency-based training and assessment. Training and assessment that are characterized by a performance orientation, emphasis on standards of performance and their measurement, and the development of training to the specified performance standards.

Competency element. An action that constitutes a task that has a triggering event and a terminating event that clearly defines its limits, and an observable outcome.

Competency unit. A discrete function consisting of a number of competency elements.

Consignment. One or more packages of dangerous goods accepted by an operator from one shipper at one time and at one address, receipted for in one lot and moving to one consignee at one destination address.

Dangerous goods. Articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods in the Technical Instructions or which are classified according to those Instructions.

Dangerous goods accident. An occurrence associated with and related to the transport of dangerous goods by air which results in fatal or serious injury to a person or major property or environmental damage.

Dangerous goods incident. An occurrence, other than a dangerous goods accident, associated with and related to the transport of dangerous goods by air, not necessarily occurring on board an aircraft, which results in injury to a person, property or environmental damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained. Any occurrence relating to the transport of dangerous goods which seriously jeopardizes the aircraft or its occupants is also deemed to be a dangerous goods incident.

Freight forwarder. A person or organization who offers the service of arranging the transport of cargo by air.

Operator. A person, organization or enterprise engaged in or offering to engage in an aircraft operation.

Overpack. An enclosure used by a single shipper to contain one or more packages and to form one handling unit for convenience of handling and stowage.

Package. The complete product of the packing operation, consisting of the packaging and its contents prepared for transport.

Packaging. One or more receptacles and any other components or materials necessary for the receptacles to perform their containment and other safety functions.

Performance criteria. Simple, evaluative statements on the required outcome of the competency element and a description of the criteria used to judge whether the required level of performance has been achieved.

Shipper. For the purpose of this document, a person, organization or enterprise undertaking any of the shipper's responsibilities of Part 5 of the Technical Instructions.

Technical Instructions. The *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284), approved and issued periodically in accordance with the procedure established by the ICAO Council.

Unit load device. Any type of freight container, aircraft container, aircraft pallet with a net or aircraft pallet with a net over an igloo.

3. SCOPE OF THE COMPETENCY FRAMEWORK

The scope of the competency framework concerns the responsibilities of shippers involved in the preparation of dangerous goods for transport by air in accordance to the Convention on International Civil Aviation:

- The State is responsible to implement an oversight system to determine compliance with Annex 18;
- The application of the basic principles for a competency-based approach determines the performance level for employees of shippers in carrying out their safety critical function to meet their obligations as defined by Annex 18.

The details of the competency framework are based on common practices as applied by States on training, operational procedures, safety oversight.

4. STRUCTURE OF THE DOCUMENT

The basic structure of the competency framework consists of three levels, as applied by ICAO in other aviation areas (definition: see chapter 2):

- a) competency units;
- b) competency elements; and
- c) performance criteria.

Further detailing at these three levels is derived from the relevant shippers' responsibilities at operational and management levels, and the analysis of related tasks as implemented by States. Responsibilities or tasks shippers actually perform will determine which competency elements apply.

Taking into account the above, the competency framework for shippers is based on the following:

- a) Core competencies applicable to all shippers:
 - core competencies and personal attributes; and
 - general awareness, knowledge and skills;
- b) Competency units related to specific activities of shippers:
 - perform pre-packaging assessment of shipment;
 - pack dangerous goods;
 - apply all consignment procedures; and
 - respond to requests.

4a. CORE COMPETENCIES APPLICABLE TO ALL SHIPPERS

Core competencies have not yet been identified for shippers in this document. This will be done once the work of the Next Generation of Aviation Professionals Task Force progresses its work and provides a standardized basis from which to work.

5. COMPETENCIES RELATED TO SPECIFIC ACTIVITIES OF A SHIPPER

A shipper is identified as an entity which offers dangerous goods for commercial air transportation service. The shipper's responsibility, however, may be assigned to an entity which performs tasks or causes a dangerous goods shipment to be offered for transport on the behalf of a third party. It is the shipper's responsibility to ensure that all of the relevant air transport requirements are applied.

Shippers shall take the necessary measures to achieve compliance with Annex 18 and the detailed provisions contained in the Technical Instructions. Before a consignment of dangerous goods is offered for air transport, all relevant persons involved in its preparation must have received training to enable them to carry out their responsibilities.

The transport of dangerous goods is recognized as an integral part of a State's overall safety oversight program. Personnel must be trained in the requirements commensurate with their responsibilities. Training should be designed so that it enables all personnel involved in the transport of dangerous goods to perform their tasks.

A training programme must be established and maintained which incorporates the general provisions for competency-based training and assessment described in Chapter 2 of the *Procedures for Air Navigation Services — Training* (PANS-TRG, Doc 9868). The programme must at least include procedures, which enable the shipping organization to:

- determine the training needs for each employee;
- develop in-house and/or verify external training programme;
- ensure initial and recurrent training is provided on time;
- maintain training records; and
- on-the-job training.

There are references to alleviations from the full requirements of the Technical Instructions throughout this framework. It should be noted that shippers are not required to apply these alleviations; they may chose to comply with the full requirements.

The following paragraphs are intended to identify competencies related to the specific activities conducted by dangerous goods shippers at an operational level.

5.1 Competency unit: Perform pre-packaging assessment of shipment

<i>Competency element</i>	<i>Performance criteria</i>
Classify dangerous goods	<ul style="list-style-type: none"> — determine if an article or substance is listed by name in Table 3-1 and if it is, use information provided — if an article or substance is not listed by name in Table 3-1, classify the article or substance according to the class definition and test criteria and, when applicable, assign the appropriate packing group — determine the class of a substance, mixture or solution having more than one risk and which is not listed by means of the precedence of hazard table — if an article or substance is not listed by name and meets the classification criteria, assign the correct UN number and proper shipping name — verify provided classification information if shipper is not also the manufacturer
Assess restrictions	<ul style="list-style-type: none"> — determine if the article or substance is forbidden — ensure no dangerous goods are transported by post, with the exception of those permitted by the post in the Technical Instructions — apply procedures for exemptions or approvals when applicable

5.2 Pack dangerous goods

<i>Competency element</i>	<i>Performance criteria</i>
Determine packing method	<ul style="list-style-type: none"> — determine whether standard, excepted or limited quantity provisions are permitted — identify any restrictions which apply to the packing methods — identify most appropriate packing method
Apply all relevant packing requirements	<ul style="list-style-type: none"> — select appropriate packaging — ensure measures have been taken to ensure packagings used are compatible with dangerous goods — respect inner packaging quantity limits and maximum quantity per package limits — ensure all applicable packing instruction requirements are met — apply specific air packing requirements such as closures, absorbent material, etc. — when a reused package is used, verify that all packing requirements are complied with — when an overpack is used, verify that all requirements are complied with — when different dangerous goods are packed together, verify that all provisions have been complied with
Ensure only packagings that are properly tested are used	<ul style="list-style-type: none"> — ensure packages have been tested in accordance with the requirements for the specific articles or substances — ensure articles or substances are packaged in the configuration as specified in the test certificate

5.3 Apply all consignment procedures

<i>Competency element</i>	<i>Performance criteria</i>
Notify competent authority	<ul style="list-style-type: none"> — notify competent authority if required by approval or exemption — notify competent authority for Class 7 shipments
Apply markings	<ul style="list-style-type: none"> — verify if correct UN specification marking has been applied to package — mark package or overpack with the proper shipping name, UN number, address of shipper and consignee and any applicable additional marking as required by the Technical Instructions
Apply labels	<ul style="list-style-type: none"> — affix or apply applicable hazard labels to package or overpack — affix or apply applicable handling labels to package or overpack
Prepare documentation	<ul style="list-style-type: none"> — complete and sign dangerous goods transport document — produce supplemental documentation when required

5.4 Respond to requests

<i>Competency element</i>	<i>Performance criteria</i>
Provide information to competent authority upon request	<ul style="list-style-type: none"> — demonstrate an understanding of the requirement to produce information to an appropriate national authority upon request, e.g. measures which have been taken to ensure compatibility, test certificates, training records etc.
Provide emergency information to emergency responders information to personnel	<ul style="list-style-type: none"> — demonstrate capability to provide information to emergency responders upon request — locate information in shipping organization's database and records in a timely manner — describe consequences of incidents and accidents

ATTACHMENT C**COMPETENCY FRAMEWORK FOR FREIGHT FORWARDERS**

See paragraph 5.7.1 of this report:

1. INTRODUCTION

1.1.1 The objective of ICAO in publishing this document is to provide guidance to freight forwarders to implement competency-based training and/or assessment for personnel who perform specific functions related to the transport of dangerous goods by air. The overall objective of this generic competency framework is to harmonize the performance standards of Freight Forwarders and enhance the ability of the individual employee to perform the job in accordance with the requirements in Annex 18 and the Technical Instructions.

2. TERMINOLOGY

For the purpose of this document, the following terminology applies:

Air operator certificate. A certificate authorizing an operator to carry out specified civil air transport operations.

Appropriate national authority. Any authority designated, or otherwise recognized, by a State to perform specific functions related to Annex 18 or the Technical Instructions.

Cargo aircraft. Any aircraft, other than a passenger aircraft, which is carrying goods or property.

Competency. A combination of skills, knowledge and attitudes required to perform a task to the prescribed standard.

Competency-based training and assessment. Training and assessment that are characterized by a performance orientation, emphasis on standards of performance and their measurement, and the development of training to the specified performance standards.

Competency element. An action that constitutes a task that has a triggering event and a terminating event that clearly defines its limits, and an observable outcome.

Competency unit. A discrete function consisting of a number of competency elements.

Consignment. One or more packages of dangerous goods accepted by an operator from one shipper at one time and at one address, receipted for in one lot and moving to one consignee at one destination address.

Dangerous goods. Articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods in the Technical Instructions or which are classified according to those Instructions.

Dangerous goods accident. An occurrence associated with and related to the transport of dangerous goods by air which results in fatal or serious injury to a person or major property or environmental damage.

Dangerous goods incident. An occurrence, other than a dangerous goods accident, associated with and related to the transport of dangerous goods by air, not necessarily occurring on board an aircraft, which results in injury to a person, property or environmental damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained. Any occurrence relating to the transport of dangerous goods which seriously jeopardizes the aircraft or its occupants is also deemed to be a dangerous goods incident.

Freight forwarder. A person or organization who offers the service of arranging the transport of cargo by air.

Operations manual. A manual containing procedures, instructions and guidance for use by operational personnel in the execution of their duties.

Operator. A person, organization or enterprise engaged in or offering to engage in an aircraft operation.

Overpack. An enclosure used by a single shipper to contain one or more packages and to form one handling unit for convenience of handling and stowage.

Package. The complete product of the packing operation, consisting of the packaging and its contents prepared for transport.

Packaging. One or more receptacles and any other components or materials necessary for the receptacles to perform their containment and other safety functions.

Passenger aircraft. An aircraft that carries any person other than a crew member, an operator's employee in an official capacity, an authorized representative of an appropriate national authority or a person accompanying a consignment or other cargo.

Performance criteria. Simple, evaluative statements on the required outcome of the competency element and a description of the criteria used to judge whether the required level of performance has been achieved.

Shipper. A person, organization or enterprise undertaking any of the shipper's responsibilities of Part 5 of the Technical Instructions.

Unit load device. Any type of freight container, aircraft container, aircraft pallet with a net or aircraft pallet with a net over an igloo.

3. SCOPE OF THE COMPETENCY FRAMEWORK

The scope of the competence framework of Freight Forwarders concerns specific functions related to the transport of dangerous goods by air that will be carried out under contract with the Shipper. The ICAO Annex 18 and the Technical Instructions defines the responsibilities of the Shipper and the Operator and does not address the Freight Forwarder's functions specifically apart from the training requirements. A freight forwarder is the logistic link between the shipper and the operator and may perform some specific functions related to the transport of dangerous goods by air, notwithstanding the own responsibilities of the shipper and the operator. The freight forwarder specifically facilitates, advises and may transport the shipments to the operator. Therefore the freight forwarder must at least be trained according to the Technical Instructions. However if he performs functions as a shipper and/or an operator he must also be trained in accordance with the competency framework of the shipper and/or the operator.

4. STRUCTURE OF THE DOCUMENT

The basic structure of the competency framework consists of three levels, as applied by ICAO in other aviation areas (definition: see chapter 2):

- a) competency units;
- b) competency elements; and
- c) performance criteria.

Further detailing at these three levels has been derived from the shippers and operators responsibilities relevant for freight forwarders at operational level and the analysis of related tasks as implemented by States.

Taking into account the above, the competency framework for freight forwarders is based on the following:

- a) Core competencies applicable to all freight forwarders:
 - core competencies and personal attributes; and
 - general awareness, knowledge and skills;
- b) Competency units related to specific activities of freight forwarders:
 - perform evaluation of the offered shipment;
 - verify offered package(s); and
 - verify and prepare documentation.

4a. CORE COMPETENCIES APPLICABLE TO ALL FREIGHT FORWARDERS

Core competencies have not yet been identified for freight forwarders in this document. This will be done once the work of the Next Generation of Aviation Professionals Task Force progresses its work and provides a standardized basis from which to work.

5. COMPETENCIES RELATED TO SPECIFIC ACTIVITIES OF A FREIGHT FORWARDER

A freight forwarder is identified as a person or organization who offers the service of arranging the transport of cargo by air. The services rendered by the Freight Forwarder are defined by either a contractual agreement or on an individual basis. According to Annex 18, it is the shipper's and operator's responsibility to ensure that all of the applicable air transport

requirements are met. Based on contractual obligations the freight forwarder shall take the necessary measures to achieve compliance with Annex 18 and the detailed provisions contained in the Technical Instructions. Before a consignment of dangerous goods is offered for air transport, all relevant persons involved in its preparation must have received training to enable them to carry out their responsibilities.

The transport of dangerous goods is recognized as an integral part of a State's overall safety oversight program. Personnel must be trained in the requirements commensurate with their responsibilities. Training should be designed so that it enables all personnel involved in the transport of dangerous goods to perform their tasks.

A training programme must be established and maintained which incorporates the general provisions for competency-based training and assessment described in Chapter 2 of the *Procedures for Air Navigation Services — Training* (PANS-TRG, Doc 9868). The programme must at least include procedures, which enable the freight forwarders organization to:

- a) determine the training needs for each employee;
- b) develop in-house and/or verify external training programme;
- c) ensure initial and recurrent training is provided on time;
- d) maintain training records; and
- e) on-the-job training

It is assumed/understood that a freight forwarding organization will establish systems and procedures which enable it to comply with its responsibilities to respond to queries from the appropriate authority. This includes but is not limited to information systems, record-keeping, training records, etc.

The following paragraphs are intended to identify the competency elements and related performance criteria related to the specific activities conducted by freight forwarders involved in the transport of dangerous goods at an operational level.

5.1 Competency unit: Perform evaluation of the offered shipment

<i>Competency element</i>	<i>Performance criteria</i>
Verify correct identification of the shipment	<ul style="list-style-type: none"> — establish procedures to aid recognition of undeclared dangerous goods — determine if the offered shipment contains dangerous goods — if the shipment contains dangerous goods, verify if these articles or substances are properly classified
Assess restrictions	<ul style="list-style-type: none"> — verify if the article or substance is forbidden for transport — verify if article or substance is permitted on passenger aircraft and cargo aircraft or cargo aircraft only — verify when applicable if all required exemptions or approvals are obtained — verify availability of passenger aircraft or cargo aircraft — verify any additional restrictions imposed by state(s) and/or operator(s) variations — when the use of a ULD is desirable and permitted, ensure proper arrangements are made with the operator — apply specific procedures for dangerous goods in consolidations when applicable

5.2 Competency unit: Verification of the offered package(s)

<i>Competency element</i>	<i>Performance criteria</i>
Verify packaging.	<ul style="list-style-type: none"> — ensure whether selected packing method (standard, excepted or limited quantity) is permitted — check if packaging complies with applicable packing instructions — check if package is free from damage or leakage — check when applicable if package bears correct UN specification markings — when an overpack is used, check if all requirements are complied with — when different dangerous goods are packed together, verify that all provisions have been complied with
Verify applicable marking and labeling requirements.	<ul style="list-style-type: none"> — check if all required markings are properly applied — check if all required hazard labels are properly applied — check if all required handling labels are properly applied — ensure that the application of any additional labeling or marking doesn't cause confusion or obstruct the required dangerous goods labeling and marking

5.3 Verify and prepare documentation

<i>Competency element</i>	<i>Performance criteria</i>
Check provided documentation	<ul style="list-style-type: none"> — check if dangerous goods declaration is complete and correct — check whether the dangerous goods declaration is in accordance with the shipment — if applicable check validity of package design certificate and/or any other certificate for Class 7 — check any additional documents required by State and/or operator variation
Prepare documentation	<ul style="list-style-type: none"> — add required information related to dangerous goods on the air waybill if used

البند ٦ من جدول الأعمال: مسائل أخرى

١-٦ سلامة النقل الجوي للطرود التي تحتوي على

هواء مُزوَّد بالأكسجين (DGP/23-WP/60)

١-١-٦ طُلب إلى فريق الخبراء المعني بالبضائع الخطرة النظر فيما إذا كان يمكن نقل طرود كبيرة تحتوي على هواء مُزوَّد بالأكسجين بأمان، أو إذا كان ينبغي منع نقلها، أو تصنيفها كبضائع خطرة والسماح بنقلها وفق التعليمات. وجرى التأكيد بأن أسطوانة الأكسجين يمكن نزعها عندما يصبح الجو مُزوَّد بالأكسجين ولا تكون مصاحبة للحاوية في أثناء النقل.

٢-١-٦ وخلص فريق الخبراء إلى أنه بما أن الأكسجين لن يبقى مضغوطاً، فلن تحتاج هذه الطرود لأن تصنف كبضائع خطرة ويمكن نقلها بأمان.

٢-٦ مراجعة الوثيقة الإرشادية لفريق الخبراء المعني

بالبضائع الخطرة (DGP/23-WP/73)

١-٢-٦ عُرضت على فريق الخبراء مسودة نسخة جديدة من وثيقة المواد الإرشادية لفريق الخبراء المعني بالبضائع الخطرة. وتم إيضاح أن النسخة الجديدة تستند إلى بعض أجزاء هيكل ومحتوى المبادئ التوجيهية لإعداد نموذج نظم الأمم المتحدة الصادرة عن اللجنة الفرعية للأمم المتحدة. وتبين أن وثيقة المواد الإرشادية يمكن أن تكون مصدراً مفيداً لمساعدة أعضاء فريق الخبراء في الحفاظ على الأسباب الكامنة وراء القرارات المتخذة بشأن المبادئ الأساسية المتعلقة بمحتوى التعليمات الفنية لأمن النقل الجوي للبضائع الخطرة.

٢-٢-٦ وأعرب فريق الخبراء عن تقديره لصياغة المواد الإرشادية. وجرى الإقرار بأن هذه المواد ستكون وثيقة حية ينبغي صيانتها بالاستناد إلى التغييرات المدخلة على التعليمات الفنية. وتم الاتفاق على ألا تعرض هذه الوثيقة في هذا الوقت إلا على فريق الخبراء.

٣-٦ الشروط المتعلقة بالبضائع الخطرة في الملحق السادس

بالاستناد إلى الملحق الثامن عشر (DGP/23-WP/100)

١-٣-٦ تم اطلاع الاجتماع بايجاز من قبل أمين فريق الخبراء المعني بالعمليات (OPSP) على العمل الجاري في فريق الخبراء لتعزيز العلاقة بين الملحق السادس — عمليات الطائرات والملحق الثامن عشر. وكان الدافع للعمل هو عمليات تدقيق مراقبة السلامة التي بيّنت أن بعض سلطات الطيران المدني لم تكن مدركة لنطاق مسؤولياتها التشغيلية في مراقبة الأنشطة التي تتناول البضائع الخطرة، وعلى الأخص فيما يتعلق بالمسؤولين عن التغليف والشحن والمناولة.

٢-٣-٦ وأقر فريق الخبراء المعني بالعمليات بالقيمة المحتملة لإدراج المسؤولية عن مراقبة البضائع الخطرة في الملحق السادس وأوصى لجنة الملاحة الجوية بالقيام بهذا العمل. وبناء على ذلك، وافقت لجنة الملاحة الجوية على إضافة مهمات جديدة إلى برنامج عمل فريق الخبراء المعني بالعمليات تحت عنوان "الشروط المتعلقة بالبضائع الخطرة في الملحق السادس". وسيتم توسيع نطاق العمل ضمن هذه المهمة ليشمل عناصر أخرى تتعلق بنقل البضائع الخطرة التي تعتبر ذات أهمية تشغيلية، مثل مشاركة المستثمرين الجويين في معالجة معلومات الطوارئ.

٦-٣-٣ وانعقد الاجتماع الثالث عشر للفريق العامل الجامع التابع لفريق الخبراء المعني بالعمليات (OPSP/WG/WHL/13) مباشرة قبل انعقاد الاجتماع الثالث والعشرين لفريق الخبراء المعني بالبضائع الخطرة (٣ إلى ٧ تشرين الأول/أكتوبر ٢٠١١). ونظر ذلك الاجتماع في اقتراح لإضافة فصل جديد إلى الجزء الأول من الملحق السادس بالاستناد إلى الملحق الثامن عشر والتعليمات الفنية لأمن النقل الجوي للبضائع الخطرة. وسيوفر الفصل الجديد مكانا بارزا في الملحق السادس للشروط المتعلقة بالبضائع الخطرة بالنسبة لدولة المشغل وللمشغل نفسه على حد سواء.

٦-٣-٤ وأشار فريق الخبراء المعني بالعمليات إلى أن هذا من شأنه أن يشكل مهمة كبيرة، وبأنه سيكون من الضروري بذل جهد تعاوني بين فريق خبراء العمليات وفريق خبراء البضائع الخطرة والأمانة العامة لضمان نجاحها. وقد وافق فريق خبراء العمليات على تشكيل فريق فرعي معني بالبضائع الخطرة (DGSG) لكي يباشر العمل على هذا الاقتراح ورحباً بمشاركة فريق خبراء البضائع الخطرة في أعمال هذا الفريق. ووافق الاجتماع الثالث عشر للفريق العامل الجامع التابع لفريق الخبراء المعني بالعمليات (OPSP/WG/WHL/13) بأن من المهم بالنسبة لفريقي الخبراء تحديد ما يلي:

- (أ) تعريف المهمة وتحديد نطاقها؛
- (ب) الاختصاصات وبرنامج العمل؛
- (ج) وسائل التقدم في إنجاز المهمة؛
- (د) وضع قائمة بالعناصر التي تتطوي عليها هذه المهمة بحيث تشمل العناصر التالية، دون أن تقتصر بالضرورة عليها:

(١) إدراج فصل جديد في الملحق السادس (الفصل ١٤) لمعالجة الشروط التشغيلية المتعلقة بالبضائع الخطرة؛

(٢) قيام السلطة المختصة بمراقبة جميع جوانب نقل البضائع الخطرة عن طريق الجو بحيث تشمل على وجه التحديد المسؤولين في التغليف والشحن والمناولة، وبصورة خاصة عندما لا تكون الدولة قد وافقت على قيام أي من مشغليها الجويين بنقل بضائع خطرة؛

(٣) تحديد متطلبات المواد الخطرة للمشغلين الذين لم تتم الموافقة على قيامهم بنقل بضائع خطرة؛

(٤) الموافقة على برامج تدريب على المواد الخطرة للمشغلين، بما في ذلك المشغلين غير المخولين نقل بضائع خطرة؛

(٥) الموافقة على أدلة المواد الخطرة أو على قسم البضائع الخطرة من دليل عمليات المشغلين الجويين؛

(٦) نقل البضائع الخطرة على أنها أدوات خاصة بالشركة (COMAT)؛

(٧) الإعفاءات والموافقات بالنسبة لموصفات عمليات نقل البضائع الخطرة؛

(٨) شروط الحصول على شهادة المشغل الجوي (AOC)؛

(٩) مهمات المرشحين الجويين أو غيرهم ضمن سلسلة قيادة العمليات، بالنسبة للاستجابة لحالات الطوارئ، بحيث تبيّن أن المشغلين يلجأون لا جميعاً لخدمات المرشحين الجويين؛

١٠) إمكانية إدراج هذه الشروط في الجزء الثاني من الملحق السادس — الطيران العام الدولي — الطائرات، والجزء الثالث من الملحق السادس — عمليات الطائرات، والقسم الثالث — العمليات الدولية — طائرات الهليكوبتر.

٥-٣-٦ دُعي الاجتماع لتحديد ترتيبات العمل التي تمكّن من تحقيق تنسيق فعال مع فريق خبراء العمليات في إدراج أحكام تشغيلية في الملحق السادس والموافقة على بدء العمل مع هذا الفريق والأمانة العامة في أقرب وقت ممكن.

٦-٣-٦ وأعرب فريق الخبراء عن دعمه القوي لأعمال التي يقوم بها فريق العمل المعني بالعمليات وأبدى اهتماما كبيرا بالعمل مع الفريق الفرعي المعني بالبضائع الخطرة لإدراج أحكام البضائع الخطرة في الملحق السادس. وأشار أمين فريق الخبراء إلى أن هذا العمل من شأنه أن يكمل التعديل المقترح على الملحق الثامن عشر الذي يوضّح مسؤوليات الدول في المراقبة (انظر الفقرة ٢-١).

٧-٣-٦ وتم الاتفاق بأن أكثر الطرق فعالية لبدء العمل تكون من خلال المراسلة. ويتم تقديم قائمة بأسماء أعضاء فريق الخبراء المعني بالعمليات إلى فريق خبراء البضائع الخطرة؛ ويتم تشجيع أعضاء فريق خبراء البضائع الخطرة الذين لديهم زملاء من دولهم في عضوية فريق خبراء العمليات على التنسيق فيما بينهم. وذكر أمين فريق خبراء العمليات أن فريقه سيعقد اجتماعا في أيلول/سبتمبر ٢٠١٢. وأمل بأن يحمل وثيقة جديدة إلى ذلك الاجتماع. وقال أن ذلك ممكن للغاية نظرا لأن الشروط متاحة بالفعل. ومن المقرر عقد اجتماع كامل لفريق الخبراء المعني بالعمليات في عام ٢٠١٣؛ وقال إنه من المتوقع أن يخرج ذلك الاجتماع بتوصية إلى لجنة الملاحة الجوية. ومع افتراض أن هذا الاقتراح ينجح في اجتياز مراحل التعديل، أعرب عن أمله في أن يبدأ تطبيقه في موعد أقصاه عام ٢٠١٥.
